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

FORM 10-K

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

For the fiscal year ended December 31, 2019

OR

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

Commission File Number: 000-51845

FEDERAL HOME LOAN BANK OF ATLANTA
(Exact name of registrant as specified in its charter)

Federally chartered corporation	**56-6000442**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

1475 Peachtree Street, NE, Atlanta, GA
(Address of principal executive offices)

30309
(Zip Code)

Registrant's telephone number, including area code: (404) 888-8000

Securities registered pursuant to Section 12(b) of the Act: None
Securities registered pursuant to Section 12(g) of the Act:
Class B Stock, par value $100
(Title of class)

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 for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☑	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
None	N/A	N/A

Registrant’s stock is not publicly traded and is only issued to members of the registrant. Such stock is issued and redeemed at par value, $100 per share, subject to certain regulatory and statutory limits. As of June 30, 2019, the aggregate par value of the stock held by current and former members of the registrant was $5,196,626,000. As of February 29, 2020, 48,834,685 total shares were outstanding, including mandatorily redeemable capital stock.

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Important Notice About Information in this Annual Report

In this annual report on Form 10-K (Report), unless the context suggests otherwise, references to the "Bank" mean the Federal Home Loan Bank of Atlanta. "FHLBanks" means the 11 district Federal Home Loan Banks, including the Bank, and "FHLBank System" means the FHLBanks and the Federal Home Loan Banks Office of Finance (Office of Finance), as regulated by the Federal Housing Finance Agency (Finance Agency). "FHLBank Act" means the Federal Home Loan Bank Act of 1932, as amended.

The information contained in this Report is accurate only as of the date of this Report and as of the dates specified herein.

The product and service names used in this Report are the property of the Bank and, in some cases, the other FHLBanks. Where the context suggests otherwise, the products, services, and company names mentioned in this Report are the property of their respective owners.

Special Cautionary Notice Regarding Forward-looking Statements

This Report includes statements describing anticipated developments, projections, estimates, or future predictions of the Bank that are "forward-looking statements" within the meaning of section 27A of the Securities Act of 1933, as amended, and section 21E of the Securities Exchange Act of 1934, as amended, and are intended to be covered by the safe harbor provided by the same regulations. These statements may use forward-looking terminology such as, but not limited to, "anticipates," "believes," "expects," "plans," "intends," "may," "could," "estimates," "assumes," "should," "will," "likely," or their negatives or other variations on these terms. The Bank cautions that, by their nature, forward-looking statements are subject to a number of risks or uncertainties, including the risk factors set forth in Item 1A—Risk Factors and the risks set forth below. Accordingly, the Bank cautions that actual results could differ materially from those expressed or implied in these forward-looking statements or could impact the extent to which a particular objective, projection, estimate, or prediction is realized. As a result, the reader is cautioned not to place undue reliance on such statements. These forward-looking statements speak only as of the date they are made, and the Bank does not undertake to update any forward-looking statement herein or that may be made from time to time on its behalf.

Forward-looking statements in this report may include, among others, the Bank's expectations for:

- the Bank's business strategy and changes in operations, including, without limitation, product growth and change in product mix;
- future performance, including profitability, dividends, retained earnings, developments, or market forecasts;
- repurchases of stock in excess of a stockholder's total stock investment requirement (excess stock);
- credit losses on advances and investments in mortgage loans and mortgage-backed securities (MBS);
- balance sheet changes and components thereof, such as changes in advances balances and the size of the Bank's portfolio of investments in mortgage assets;
- the Bank's minimum retained earnings target;
- the interest rate environment in which the Bank does business;
- forward-looking accounting and financial statement effects; and
- those other factors identified and discussed in the Bank's public filings with the Securities and Exchange Commission (SEC).

Actual results may differ from forward-looking statements for many reasons including, but not limited to:

- future economic and market conditions, including, for example, inflation and deflation, the timing and volume of market activity; general consumer confidence and spending habits; the strength of local economies in which the Bank conducts its business; housing prices, employment rates, and interest-rate changes that affect the housing markets;

- changes in the demand for the Bank's advances and other products and services resulting from changes in members' deposit flows and credit demands, as well as from changes in other sources of funding and liquidity available to members;
- changes in the financial health of the Bank's members;
- volatility of market prices, rates, and indices that could affect the value of collateral held by the Bank as security for the obligations of Bank members and counterparties to derivatives and similar agreements;
- the risk of changes in interest rates on the Bank's interest-rate sensitive assets and liabilities;
- uncertainties related to the phase-out of the London Interbank Offered Rate (LIBOR) interest-rate benchmark:
- changes in various governmental monetary or fiscal policies, as well as legislative and regulatory changes, including changes in accounting principles generally accepted in the United States of America (GAAP) and related industry practices and standards, or the application thereof;
- changes in the credit ratings of the U.S. government and/or the FHLBanks;
- political, national, and world events, including acts of war, terrorism, natural disasters, global pandemics or other catastrophic events, and legislative, regulatory, judicial, or other developments that affect the economy, the Bank's market area, the Bank, its members, counterparties, its federal regulators, and/or investors in the consolidated obligations of the FHLBanks;
- competitive forces, including other sources of funding available to Bank members, other entities borrowing funds in the capital markets, and the ability to attract and retain skilled individuals;
- the Bank's ability to develop, implement, promote the efficient performance of, and support and safeguard, technology and information systems, including those provided by third-parties, sufficient to measure and effectively manage the risks of the Bank's business without significant interruption;
- changes in investor demand for consolidated obligations of the FHLBanks and/or the terms of derivatives and similar agreements, including changes in investor preference and demand for certain terms of these instruments, which may be less attractive to the Bank, or which the Bank may be unable to offer;
- the Bank's ability to introduce, support, and manage the growth of new products and services and to successfully manage the risks associated with those products and services;
- the Bank's ability to successfully manage the credit and other risks associated with any new types of collateral securing advances;
- the availability from acceptable counterparties, upon acceptable terms, of swaps, options, and other derivative financial instruments of the types and in the quantities needed for investment funding and risk-management purposes;
- the uncertainty and costs of litigation, including litigation filed against one or more of the FHLBanks;
- membership changes, including changes resulting from mergers or changes in the principal place of business of Bank members, which could result in decreased advances or other business from such members;
- changes in the FHLBank Act or Finance Agency regulations that affect FHLBank operations and regulatory oversight or changes in other statutes or regulations applicable to the FHLBanks; and
- adverse developments or events affecting or involving one or more other FHLBanks or the FHLBank System in general.

These risk factors are not exhaustive. New risk factors may emerge from time to time. The Bank cannot predict such new risk factors nor can it assess the impact, if any, of such new risk factors on its business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those implied by any forward-looking statements.

PART I

Item 1. Business.

Overview

General. The Bank is a federally chartered corporation that was organized in 1932 and is one of 11 district FHLBanks. The FHLBanks, along with the Office of Finance, comprise the FHLBank System. The FHLBanks are U.S. government-sponsored enterprises (GSEs) organized under the authority of the FHLBank Act. Each FHLBank operates as a separate entity within a defined geographic district and has its own management, employees, and board of directors. The Bank's defined geographic district includes Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and the District of Columbia. The Bank is supervised and regulated by the Finance Agency, an independent federal agency in the executive branch of the United States government.

Cooperative. The Bank is a cooperative owned by member institutions that are required to purchase capital stock in the Bank as a condition of membership. Federally insured depository institutions, insurance companies, privately insured state-chartered credit unions, and community development financial institutions (CDFIs) located in the Bank's defined geographic district and engaged in residential housing finance are eligible to apply for membership. The Bank's capital stock is not publicly traded and is owned entirely by current or former members and certain non-members that own the Bank's capital stock as a result of a merger with or acquisition of a Bank member. The Bank's membership totaled 811 financial institutions, comprised of 469 commercial banks, 230 credit unions, 65 savings institutions, 38 insurance companies, and nine CDFIs as of December 31, 2019.

Business Model. As a cooperative, the Bank's customers are also its owners. The Bank strategically focuses on positioning itself with its membership in a number of ways to enhance their total value in the cooperative by providing readily available, competitively priced funding to its member institutions, a potential return on investments, support for community investment activities, and other credit and noncredit products and services, including education opportunities on a range of topics. The Bank serves the public by providing its member institutions with a source of liquidity, thereby enhancing the availability of credit for residential mortgages and targeted community developments. The Bank primarily supports this mission by offering collateralized loans, known as advances, to its members.

The Bank's primary source of funds is proceeds from the sale of FHLBank debt instruments to the public. These debt instruments, known as "consolidated obligations," are the joint and several obligations of all the FHLBanks. Because of the FHLBanks' GSE status, the FHLBanks are generally able to raise funds at favorable rates. The Bank's cooperative ownership structure allows the Bank to pass along the benefit of these low funding rates to its members. The U.S. government does not guarantee the debt securities or other obligations of the Bank or the FHLBank System.

Business. The Bank manages its operations as one business segment. Management and the Bank's board of directors review enterprise-wide financial information in order to make operating decisions and assess performance.

The Finance Agency assesses each FHLBank's core mission achievement by evaluating its core mission asset ratio, calculated as the ratio of primary mission assets, which include advances and acquired member assets, to consolidated obligations. The Bank's core mission activities primarily include the issuance of advances. This ratio is calculated annually at year-end, using annual average par values. Based on this ratio, the Finance Agency has provided the following expectations for each FHLBank's strategic plan:

- when the ratio is at least 70 percent or higher, the strategic plan should include an assessment of the FHLBank's prospects for maintaining this level;

- when the ratio is at least 55 percent but less than 70 percent, the strategic plan should explain the FHLBank's plan to bring the ratio closer to the preferred ratio; and

- when the ratio is below 55 percent, the strategic plan should include an explanation of the circumstances that caused the ratio to be at that level and detailed plans to increase the ratio. If the FHLBank maintains a ratio below 55 percent over the course of several consecutive reviews, then the board of directors should consider possible strategic alternatives.

The Bank's core mission asset ratio was 70.9 percent as of December 31, 2019. Compliance with regulatory contingency liquidity guidance, which required the Bank to hold an additional amount of liquid assets, impacted this ratio.

Under the FHLBank Act, the Bank is exempt from ordinary federal, state, and local taxation, except employment and real property taxes. It does not have any subsidiaries nor does it sponsor any off-balance sheet special purpose entities.

For additional information regarding the Bank's financial condition, changes in financial condition, and results of operations, refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations.

Products and Services

The Bank's products and services include the following:

- Credit Products;
- Community Investment Services; and
- Cash Management and Other Services.

Credit Products

The credit products that the Bank offers to its members include advances and standby letters of credit.

Advances

Advances are the Bank's primary product. Advances are fully secured loans made to members and eligible housing finance agencies, authorities, and organizations called "housing associates" (non-members that are approved mortgagees under Title II of the National Housing Act). The carrying value of the Bank's outstanding advances was $97.2 billion and $108.5 billion as of December 31, 2019 and 2018, respectively, and advances represented 64.8 percent and 70.2 percent of total assets as of December 31, 2019 and 2018, respectively. Advances generated 65.5 percent, 67.0 percent, and 53.8 percent of total interest income for the years ended December 31, 2019, 2018, and 2017, respectively.

Advances serve as a funding source for the Bank's members for a variety of conforming and nonconforming mortgages. Thus, advances support important housing markets, including those focused on low- and moderate-income households. For those members that choose to sell or securitize their mortgages, advances can supply interim funding.

Generally, member institutions use the Bank's advances for one or more of the following purposes:

- providing funding for mortgages held in the member's portfolio, including both conforming and nonconforming mortgages;
- providing temporary funding during the origination, packaging, and sale of mortgages into the secondary market;
- providing funding for commercial real estate loans;
- assisting with asset-liability management by matching the maturity and prepayment characteristics of mortgage loans or adjusting the sensitivity of the member's balance sheet to interest-rate changes;
- providing a cost-effective alternative to meet contingent liquidity needs and adhere to liquidity management strategies; and
- providing funding for community investment and economic development.

Pursuant to statutory and regulatory requirements, the Bank may only make long-term advances to community financial institutions for the purpose of enabling a member to purchase or fund new or existing residential housing finance assets, which may include defined small business loans, small farm loans, small agri-business loans, and community development loans. The Bank's management indirectly monitors the purpose for which members use advances through limitations on eligible collateral and as described below.

The Bank obtains a security interest in eligible collateral to secure a member's advance prior to the time that the Bank originates or renews an advance. Eligible collateral is defined by the FHLBank Act, Finance Agency regulations, and the Bank's credit and collateral policy. The Bank requires its borrowers to execute an advances and security agreement that establishes the Bank's security interest in all collateral pledged by the borrower. The Bank perfects its security interest in collateral prior to making an advance to the borrower. As additional security for a member's indebtedness, the Bank has a statutory and contractual lien on the member's capital stock in the Bank. The Bank may also require additional or substitute collateral from a borrower, as provided in the FHLBank Act and the financing documents between the Bank and its borrowers.

The Bank's management assesses member creditworthiness and financial condition, typically on a quarterly basis, to determine the term and maximum dollar amount of advances that the Bank will lend to a particular member. In addition, the Bank discounts eligible collateral and periodically revalues the collateral pledged by each member to secure its outstanding advances. The Bank has never experienced a credit loss on an advance.

The FHLBank Act affords any security interest granted to the Bank by any member of the Bank, or any affiliate of any such member, priority over the claims and rights of any party (including any receiver, conservator, trustee, or similar party having rights of a lien creditor), other than the claims and rights of a party that (1) would be entitled to priority under otherwise applicable law; and (2) is an actual bona fide purchaser for value or is an actual secured party whose security interest is perfected in accordance with applicable state law.

Pursuant to its regulations, the Federal Deposit Insurance Corporation (FDIC) has recognized the priority of an FHLBank's security interest under the FHLBank Act and the right of an FHLBank to require delivery of collateral held by the FDIC, as receiver, for a failed depository institution.

The Bank offers standard and customized advances to fit a variety of member needs. Generally, the Bank offers maturities as described below, but longer maturities are available, which are subject to a member's financial condition and available funding. The Bank's advances include, among other products, the following:

Adjustable- or variable-rate indexed advances. Adjustable- or variable-rate indexed advances include the following:

- Daily Rate Credit Advance (DRC Advance). The DRC Advance provides short-term funding with rate resets on a daily basis, similar to federal funds lines. The DRC Advance is available generally from one day to 12 months.

- Adjustable Rate Credit Advance (ARC Advance). The ARC Advance is an advance that floats to an index and provides intermediate and long-term funding with rate resets at specified intervals. The ARC Advance is available for a term generally of up to 10 years.

- Floating-to-Fixed Advance. This is an advance that floats to an index and changes to a predetermined fixed rate on a predetermined date prior to maturity. The Bank offers this product with a maturity generally of up to 15 years.

Fixed-rate advances. Fixed-rate advances include the following:

- Fixed Rate Credit Advance (FRC Advance). The FRC Advance offers fixed-rate funds with principal due at maturity generally from one month to 20 years. The Bank allows for the inclusion of interest-rate caps and/or floors in certain FRC Advances with terms of 12 months or greater and a par value of $1 million or more.

- Callable Advance. The callable advance is a fixed-rate advance with a fixed maturity and the option for the borrower to prepay the advance on an option exercise date(s) before maturity without a fee. The options can be Bermudan (periodically during the life of the advance) or European (one-time). The Bank offers this product with a maturity generally of up to 10 years with options generally from three months to 10 years.

- Expander Advance. The expander advance is a fixed-rate advance with a fixed maturity and an option by the borrower to increase the amount of the advance in the future at a predetermined interest rate. The option may be Bermudan or European. The Bank has established internal limits on the amount of such options that may be sold based upon which quarter they will mature. The Bank offers this product with a maturity generally of two years to 20 years with an option exercise date that can be set generally from one month to 10 years.

- Principal Reducing Credit Advance (PRC Advance). The PRC Advance is a fixed-rate advance with a final maturity generally of up to 20 years and predetermined principal reductions on specific dates. The reduction schedule is predetermined by the borrower and may be scheduled on a monthly, quarterly, semi-annual, or annual basis. Amortization options include equal payments or structures similar to a mortgage.

Convertible advances. In a convertible advance, the Bank purchases an option from the borrower that allows the Bank to modify the interest rate on the advance from fixed to variable on certain specified dates. The Bank's option can be Bermudan or European. The Bank offers this product with a maturity generally of up to 15 years with options generally from three months to 15 years.

Forward starting advances. With the forward starting advance, the borrower may enter into the terms of any structured advance, including the FRC Advance, ARC Advance, Expander Advance, or Floating-to-Fixed Advance, with a future settlement date. Interest accrues beginning on the settlement date. A termination fee applies if the borrower voluntarily terminates the advance prior to the settlement date.

The following table presents the par value of outstanding advances by product characteristics (dollars in millions). See Note 9 —Advances to the Bank's 2019 audited financial statements for further information on the distinction between par value and carrying value of outstanding advances.

	As of December 31,			
	2019		2018	
	Amount	Percent of Total	Amount	Percent of Total
Fixed rate [1]	$ 57,711	59.83	$ 62,458	57.61
Adjustable or variable-rate indexed	33,412	34.64	43,737	40.34
Convertible	4,261	4.42	987	0.91
Principal reducing credit	1,072	1.11	1,232	1.14
Total par value	$ 96,456	100.00	$ 108,414	100.00

[1] Includes convertible advances whose conversion options have expired.

The Bank establishes interest rates on advances using the Bank's cost of funds on consolidated obligations and the interest-rate swap market. The Bank establishes an interest rate applicable to each type of advance each day and then adjusts those rates during the day to reflect changes in the cost of funds and interest rates.

The Bank includes prepayment fee provisions in most advance transactions. With respect to callable advances, prepayment fees apply to prepayments on dates other than option exercise dates. The Bank also offers variable-rate prepayable advances, in which prepayment fees apply to prepayments made on dates other than certain specified dates. As required by Finance Agency regulations, the prepayment fee is intended to make the Bank financially indifferent to a borrower's decision to prepay an advance before maturity or, with respect to a callable advance, on a date other than an option exercise date.

The following table presents information on the Bank's 10 largest borrowers of advances (dollars in millions):

		As of December 31, 2019		
Institution	**State**	**Advances Par Value**	**Percent of Total Advances**	**Weighted-average Interest Rate (%) [(1)]**
Truist Bank	North Carolina	$ 17,537	18.18	2.05
Navy Federal Credit Union	Virginia	10,259	10.64	2.64
Bank of America, National Association	North Carolina	10,009	10.38	1.94
TIAA, FSB	Florida	9,306	9.65	2.30
Capital One, National Association	Virginia	7,000	7.26	1.74
Regions Bank	Alabama	4,551	4.72	1.95
BankUnited, National Association	Florida	4,481	4.64	2.02
Pentagon Federal Credit Union	Virginia	3,724	3.86	2.37
Synovus Bank	Georgia	3,052	3.16	1.77
City National Bank of Florida	Florida	1,850	1.92	1.35
Subtotal (10 largest borrowers)		71,769	74.41	2.10
Subtotal (all other borrowers)		24,687	25.59	2.04
Total par value		$ 96,456	100.00	2.09

[(1)] The average interest rate of the member's advance portfolio weighted by each advance's outstanding balance.

A description of the Bank's credit risk management and collateral valuation methodology as it relates to its advance activity is contained in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Advances.

Standby Letters of Credit

The Bank issues irrevocable standby letters of credit on behalf of its members to support certain obligations of the members to third-party beneficiaries. Members may use standby letters of credit for residential housing financing and community lending or for liquidity and asset-liability management. In particular, members often use standby letters of credit as collateral for deposits from public sector entities. Standby letters of credit are generally available for nonrenewable terms of up to five years or for one-year terms that are renewable annually with a final expiration date of up to 10 years after issuance. The Bank requires members to fully collateralize the face amount of any standby letter of credit issued by the Bank during the term of the standby letter of credit. The Bank also charges members a fee based on the face amount of the standby letter of credit. If the Bank is required to make a payment for a beneficiary's draw, the amount must be reimbursed by the member immediately or, subject to the Bank's discretion, may be converted into an advance to the member. The Bank's underwriting and collateral requirements for standby letters of credit are the same as they are for advances. Standby letters of credit are not subject to activity-based capital stock purchase requirements. The Bank has never experienced a credit loss related to a standby letter of credit reimbursement obligation. Unlike advances, standby letters of credit are accounted for as financial guarantees because a standby letter of credit may expire in accordance with its terms without being drawn upon by the beneficiary. The Bank had $32.5 billion and $30.3 billion of outstanding standby letters of credit as of December 31, 2019 and 2018, respectively.

Advances and Standby Letters of Credit Combined

The following table presents information on the Bank's 10 largest borrowers of advances and standby letters of credit combined (dollars in millions):

		As of December 31, 2019	
Institution	**State**	**Advances Par Value and Standby Letters of Credit Balance**	**Percent of Total Advances Par Value and Standby Letters of Credit**
Truist Bank	North Carolina	$ 29,530	22.90
Bank of America, National Association	North Carolina	16,809	13.04
Navy Federal Credit Union	Virginia	10,442	8.10
TIAA, FSB	Florida	9,532	7.39
BBVA USA	Alabama	7,874	6.11
Capital One, National Association	Virginia	7,210	5.59
Regions Bank	Alabama	4,551	3.53
BankUnited, National Association	Florida	4,481	3.47
Pentagon Federal Credit Union	Virginia	3,860	2.99
Synovus Bank	Georgia	3,746	2.90
Subtotal (10 largest borrowers)		98,035	76.02
Subtotal (all other borrowers)		30,926	23.98
Total advances par value and standby letters of credit		$ 128,961	100.00

Community Investment Services

The Bank's Affordable Housing Program (AHP) provides no-cost or low-cost funds in the form of a direct subsidy or a subsidized advance to members to support the financing of rental and for-sale housing for very low-, low-, and moderate-income households. The Bank offers a Competitive AHP, a Set-aside AHP, and a Community Investment Cash Advance program that is a discounted advance program that supports projects that provide affordable housing and economic development benefiting those households. A description of each program is as follows:

- the Competitive AHP is offered annually through a competitive application process and provides funds for either rental or ownership real estate projects submitted through member financial institutions;

- the Set-aside AHP currently consists of the following distinct products: First-time Homebuyer, Community Partners, Foreclosure Recovery, Veterans Purchase, Returning Veterans Purchase, and Community Rebuild and Restore. The Set-aside AHP products are available on a first-come, first-served basis and provide no-cost funds through member financial institutions to be used for down payments, closing costs, and other costs associated with the purchase, purchase/rehabilitation, or rehabilitation of homes for families at or below 80 percent of the area median income; and

- the Community Investment Cash Advance program consists of the Community Investment Program and the Economic Development Program, which both provide the Bank's members with access to low-cost funding to create affordable rental and homeownership opportunities and to engage in commercial and economic development activities that benefit low- and moderate-income individuals and neighborhoods.

Each FHLBank must set aside 10 percent of its income subject to assessment for AHP, or such additional prorated sums as may be required so that the aggregate annual contribution of the FHLBanks is not less than $100 million. The aggregate annual contribution of the FHLBanks exceeded $100 million for the years ended December 31, 2019, 2018, and 2017. For purposes of the AHP calculation, each FHLBank's income subject to assessment is defined as the individual FHLBank's net income before assessments, plus interest expense related to mandatorily redeemable capital stock. The assessment for AHP is further discussed under the Taxation/Assessments heading below. The Bank's AHP assessments were $41 million, $46 million, and $39 million for the years ended December 31, 2019, 2018, and 2017, respectively.

The Bank also offers a voluntary program that is funded, operated, and regulated totally separate and apart from AHP. This voluntary program is referred to as the Community Heroes initiative, which is a matching-grant initiative to enable law enforcement officers, firefighters, other first responders, and public school teachers to purchase a home under locally structured partnerships. Pursuant to this initiative, the Bank will provide up to $4.5 million in grant funding through its members to eligible recipients with the potential for match funding from local governments, counties, or housing finance agencies. During 2019, the Bank funded $2.1 million related to the Community Heroes Initiative.

Cash Management and Other Services

The Bank provides a variety of services to help members meet day-to-day cash management needs. These services include cash management services that support member advance activity, such as daily investment accounts, automated clearing house (ACH) transactions, and custodial mortgage accounts. In addition to cash management services, the Bank provides other noncredit services, including wire transfer services and safekeeping services. These cash management, wire transfer, and safekeeping services do not generate material amounts of income and are performed primarily as ancillary services for the Bank's members.

The Bank also acts as an intermediary to meet certain derivatives needs of its smaller members that have limited or no access to the capital markets. This service assists members with asset-liability management by giving them indirect access to the capital markets. These intermediary transactions involve the Bank entering into a derivative with a member and then entering into a mirror-image derivative with one of the Bank's approved counterparties. The derivatives entered into by the Bank as a result of its intermediary activities do not qualify for hedge accounting treatment and are separately marked to fair value through earnings. The Bank attempts to earn income from this service sufficient to cover its operating expenses through the minor difference in rates on these mirror-image derivatives. The net result of the accounting for these derivatives is not material to the operating results of the Bank. The Bank may require both the member and the counterparty to post collateral for any market value exposure that may exist during the life of the transaction. The Bank has ceased offering intermediate swaps that contain a LIBOR leg.

Mortgage Loan Purchase Programs

The Bank's mortgage loan purchase programs provided members an alternative to holding mortgage loans in a portfolio or selling them into the secondary market. Prior to 2008, the Bank purchased loans directly from member participating financial institutions (PFIs) through the Mortgage Partnership Finance® Program (MPF® Program), a program developed by FHLBank Chicago and the Mortgage Purchase Program (MPP), a program separately established by the Bank. The Bank ceased directly purchasing new mortgage assets under these mortgage programs in 2008. However, the Bank continues to support its existing MPP and MPF Program mortgage loan portfolios.

MPF Program

From time to time, the Bank had offered various products to members through the MPF Program. FHLBank Chicago, as the MPF provider, is responsible for providing transaction processing services, as well as developing and maintaining the underwriting criteria and program servicing guide. The Bank pays FHLBank Chicago a fee for providing these services. Conventional loans purchased from PFIs under the MPF Program are subject to varying levels of loss allocation and credit enhancement structures. Federal Housing Administration (FHA)-insured and Department of Veterans Affairs (VA)-guaranteed loans are not subject to the credit enhancement obligations applicable to conventional loans under the MPF Program. The PFI may retain the right and responsibility for servicing the loans or sell the servicing rights, and the PFI may be required to repurchase a loan in the event of a breach of eligibility requirement or other warranty.

The Bank maintains a portfolio of mortgage loans that were historically purchased directly from PFIs and are recorded on the balance sheet. One of the Bank's PFIs under the traditional MPF products, Truist Bank, was among the Bank's top 10 borrowers as of December 31, 2019.

Mortgage Partnership Finance® Program, "Mortgage Partnership Finance®", and "MPF®" are registered trademarks of FHLBank Chicago.

MPP

The Bank's MPP is independent of other FHLBanks' mortgage loan programs. Therefore, the Bank has greater control over pricing, quality of customer service, relationships with any third-party service providers, and program changes. Certain benefits of greater Bank control include the Bank's ability to control operating costs and to manage its regulatory relationship directly with the Finance Agency. There were no MPP PFIs that were among the Bank's top 10 borrowers as of December 31, 2019.

The MPF Program and MPP are authorized under applicable regulations. Regulatory interpretive guidance provides that an FHLBank may sell loans acquired through its mortgage loan purchase programs so long as it also sells the related credit enhancement obligation. The Bank currently is not selling loans it has acquired through these mortgage loan purchase programs. The contractual maturity dates of some of the purchased loans extend out to 2047.

Investments

The Bank maintains a portfolio of investment securities and other investments for liquidity purposes to provide for the availability of funds to meet member credit needs and to provide additional earnings for the Bank. As of December 31, 2019, the Bank's investment securities consist of MBS issued by GSEs, U.S. government agencies, or private-label securities; securities issued by the U.S. government or U.S. government agencies; and state and local housing agency obligations. The Bank ceased purchasing private-label MBS in 2008 and in January 2020 the Bank sold its private-label MBS portfolio. The investment securities portfolio generally provides the Bank with higher returns than those available in other investments. The Bank's other investments may consist of interest-bearing deposits, overnight and term federal funds sold, and securities purchased under agreements to resell. U. S Treasury obligations, U.S. agency, and GSE securities were 53.9 percent and 53.1 percent of the Bank's total investments as of December 31, 2019 and 2018, respectively, as discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition—Investments. Investments generated 34.0 percent, 32.4 percent, and 44.6 percent of total interest income for the years ended December 31, 2019, 2018, and 2017, respectively.

The Bank's MBS investment practice is to purchase MBS from a group of Bank-approved dealers, which may include "primary dealers." Primary dealers are banks and securities brokerages that trade in U.S. government securities with the Federal Reserve System. The Bank does not purchase MBS from its members, except in the case in which a member or its affiliate is on the Bank's list of approved dealers. In all cases, the Bank bases its investment decisions on the relative rates of return of competing investments and does not consider whether an MBS is being purchased from or issued by a member or an affiliate of a member. The MBS balance included a carrying value of $552 million and $684 million, respectively, of MBS that were issued by one of the Bank's members or an affiliate of a member as of December 31, 2019 and 2018. See Note 6—Available-for-sale Securities and Note 7—Held-to-maturity Securities to the Bank's 2019 audited financial statements for a tabular presentation of the available-for-sale and held-to-maturity securities issued by members or affiliates of members.

Finance Agency regulations prohibit the Bank from investing in certain types of securities. These restrictions are discussed in more detail in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Investments.

Finance Agency regulations prohibit an FHLBank from purchasing MBS and asset-backed securities if its investment in such securities exceeds 300 percent of the FHLBank's previous month-end regulatory capital on the day it purchases the securities. Regulatory capital is defined as the sum of permanent capital, the amount paid-in for Class A stock (if any), the amount of the Bank's general allowance for losses (if any), and the amount of any other instruments identified in the capital plan and approved by the Finance Agency. For discussion regarding the Bank's compliance with this regulatory requirement, refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition—Investments.

The Bank is subject to credit and market risk on its investments. For discussion as to how the Bank manages these risks, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Investments.

Funding Sources

Consolidated Obligations

Consolidated obligations, consisting of bonds and discount notes, are the joint and several obligations of the FHLBanks, backed only by the financial resources of the FHLBanks. Consolidated obligations are not obligations of the U.S. government, and the United States does not guarantee the consolidated obligations. The Office of Finance has responsibility for facilitating and executing the issuance of consolidated obligations for all the FHLBanks. It also services all outstanding debt. The Bank is primarily liable for its portion of consolidated obligations (i.e., those issued on its behalf); however, the Bank is also jointly and severally liable with the other FHLBanks for the payment of principal and interest on consolidated obligations of all the FHLBanks. If the principal or interest on any consolidated obligation issued on behalf of the Bank is not paid in full when due, the Bank may not pay any extraordinary expenses or pay dividends to, or redeem or repurchase shares of capital stock from, any member of the Bank. At any time, the Finance Agency may require any FHLBank to make principal or interest payments due on any consolidated obligation, whether or not the primary obligor FHLBank has defaulted on the payment of that obligation.

To the extent that an FHLBank makes any payment on a consolidated obligation on behalf of another FHLBank, the paying FHLBank is entitled to reimbursement from the noncomplying FHLBank. However, if the Finance Agency determines that the noncomplying FHLBank is unable to satisfy its obligations, the Finance Agency may allocate the outstanding liability among the remaining FHLBanks on a pro rata basis in proportion to each FHLBank’s participation in all consolidated obligations outstanding or on any other basis the Finance Agency may determine.

Finance Agency regulations also state that the Bank must maintain the following types of assets that are free from any lien or pledge in an aggregate amount at least equal to the amount of the Bank’s portion of the consolidated obligations outstanding, provided that any assets that are subject to a lien or pledge for the benefit of the holders of any issue of consolidated obligations shall be treated as if they were assets free from any lien or pledge for purposes of this negative pledge requirement:

- cash;
- obligations of, or fully guaranteed by, the United States;
- secured advances;
- mortgages that have any guaranty, insurance, or commitment from the United States or any agency of the United States; and
- investments described in Section 16(a) of the FHLBank Act which, among other items, include securities that a fiduciary or trust fund may purchase under the laws of the state in which the FHLBank is located.

The Bank was in compliance with this Finance Agency regulation as of December 31, 2019 and 2018.

Consolidated obligations are issued with either fixed- or variable-rate coupon payment terms that may use a variety of indices. The Bank, working through the Office of Finance, is able to customize consolidated obligations to meet investor demands. Customized features can include different indices and embedded derivatives. The Bank offsets these customized features predominantly by derivatives to reduce the market risk associated with the consolidated obligations.

Consolidated Obligation Bonds. Consolidated obligation bonds satisfy longer-term funding requirements. Typically, the maturity of these securities ranges from one year to 10 years, but the maturity is not subject to any statutory or regulatory limit. Consolidated obligation bonds can be issued and distributed through negotiated or competitively bid transactions with approved underwriters or selling group members. The FHLBanks also use the TAP issue program for fixed-rate, noncallable bonds. Under this program, the FHLBanks offer debt obligations at specific maturities that may be reopened daily, generally during a three-month period through competitive auctions. The goal of the TAP program is to aggregate frequent smaller issues into a larger bond issue that may have greater market liquidity.

Consolidated Obligation Discount Notes. Through the Office of Finance, the FHLBanks also issue consolidated obligation discount notes to provide short-term funds for advances to members, for the Bank's other investments, and for the Bank's variable-rate and convertible advance programs. These securities have maturities up to 366 days and are offered daily through a consolidated obligation discount note selling group. Discount notes are issued at a discount and mature at par.

Certification and Reporting Obligations. Under Finance Agency regulations, before the end of each calendar quarter and before paying any dividends for that quarter, the president of the Bank must certify to the Finance Agency that, based upon known current facts and financial information, the Bank will remain in compliance with applicable liquidity requirements and will remain capable of making full and timely payments of all current obligations (which includes the Bank's obligation to pay principal and interest on consolidated obligations issued on its behalf through the Office of Finance) coming due during the next quarter. The Bank is required to provide notice to the Finance Agency upon the occurrence of any of the following:

- the Bank is unable to provide the required certification;
- the Bank projects, at any time, that it will fail to comply with its liquidity requirements or will be unable to meet all of its current obligations due during the quarter;
- the Bank actually fails to comply with its liquidity requirements or to meet all of its current obligations due during the quarter; or
- the Bank negotiates to enter or enters into an agreement with one or more other FHLBanks to obtain financial assistance to meet its current obligations due during the quarter.

The Bank must file a consolidated obligation payment plan for Finance Agency approval upon the occurrence of any of the following:

- the Bank becomes a noncomplying FHLBank as a result of failing to provide a required certification related to liquidity requirements and ability to meet all current obligations;
- the Bank becomes a noncomplying FHLBank as a result of being required to provide notice to the Finance Agency of certain matters related to liquidity requirements or inability to meet current obligations; or
- the Finance Agency determines that the Bank will cease to be in compliance with its liquidity requirements or will lack the capacity to meet all of its current obligations due during the quarter.

Regulations permit a noncompliant FHLBank to continue to incur and pay normal operating expenses in the regular course of business. However, a noncompliant FHLBank may not incur or pay any extraordinary expenses, declare or pay dividends, or redeem any capital stock until the Finance Agency has approved the FHLBank's consolidated obligation payment plan or inter-FHLBank assistance agreement or has ordered another remedy, and the noncompliant FHLBank has paid all its direct obligations.

Deposits

The FHLBank Act allows the Bank to accept deposits from its members, any institution for which it is providing correspondent services, other FHLBanks, or other governmental instrumentalities. Deposits provide some of the Bank's funding resources while also giving members a low-risk earning asset that satisfies their regulatory liquidity requirements. The Bank had demand and overnight deposits of $1.5 billion and $1.2 billion as of December 31, 2019 and 2018, respectively.

To support its member deposits, the FHLBank Act requires the Bank to have an amount equal to or greater than the current deposits received from its members as a reserve. These reserves are required to be invested in obligations of the United States, deposits in eligible banks or trust companies, or advances with maturities not exceeding five years. The Bank had excess deposit reserves of $98.5 billion and $114.3 billion as of December 31, 2019 and 2018, respectively.

Capital and Capital Rules

The Bank must comply with regulatory requirements for total regulatory capital, leverage capital, and risk-based capital. To satisfy these capital requirements, the Bank maintains a capital plan. Each member's minimum stock requirement is an amount equal to the sum of a "membership" stock component and an "activity-based" stock component under the capital plan. The FHLBank Act and applicable regulations require that the minimum stock requirement for members must be sufficient to enable the Bank to meet its minimum leverage and risk-based capital requirements. If necessary, the Bank may adjust the minimum stock requirement from time to time within the ranges established in the capital plan. Each member is required to comply promptly with any adjustment to the minimum stock requirement.

As of December 31, 2019, the membership stock requirement was 0.09 percent (nine basis points) of the member's total assets, subject to a cap of $15 million.

As of December 31, 2019, the activity-based stock requirement was the sum of the following:

- 4.25 percent of the member's outstanding par value of advances; and

- 8.00 percent of any outstanding targeted debt or equity investment (such as multifamily residential mortgage loan assets) sold by the member to the Bank on or after December 17, 2004.

In addition, the activity-based stock requirement may include a percentage of any outstanding balance of acquired member assets (such as residential mortgage loan assets), although this percentage was set at zero as of December 31, 2019. The Bank did not have any multifamily residential mortgage loan assets purchased from members or other targeted debt or equity investments outstanding; therefore, the 8.00 percent activity-based stock requirement was inapplicable as of December 31, 2019. Currently, the Bank does not have a capital stock requirement for the issuance of standby letters of credit. The Bank has received regulatory communication relating to the inclusion of an activity stock requirement for letters of credit, the specific terms of which have not yet been determined, and any such requirement will need to be included in an amended capital plan, which would require both approval of the Bank's board of directors and the Finance Agency.

Although applicable regulations allow the Bank to issue Class A stock or Class B stock, or both, to its members, the Bank's capital plan allows it to issue only Class B stock.

The Bank's financial management policy contains provisions to help preserve the value of the members' investment in the Bank and reasonably mitigate the effect on capital of unanticipated operating and accounting events. For additional information regarding the Bank's capital and capital requirements, as well as information regarding the Bank's retained earnings and dividends, refer to Item 5, Market for Registrant's Common Equity—Related Stockholder Matters and Issuer Purchases of Equity Securities; Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition—Capital; and Note 14—Capital and Mandatorily Redeemable Capital Stock to the Bank's 2019 audited financial statements.

Derivatives

Finance Agency regulations and the Bank's Risk Management Policy (RMP) establish guidelines for derivatives. These policies and regulations prohibit the trading or speculative use of these instruments and limit permissible credit risk arising from these instruments. The Bank enters into derivatives to manage the exposure to interest-rate risk inherent in otherwise unhedged assets and funding positions, to achieve the Bank's risk management objectives, and to act as an intermediary between its members and counterparties. These derivatives consist of interest-rate swaps (including callable and putable swaps), swaptions, interest-rate cap and floor agreements, and forward contracts. Generally, the Bank uses derivatives in its overall interest-rate risk management to accomplish one or more of the following objectives:

- preserve a favorable interest-rate spread between the yield of an asset (e.g., an advance) and the cost of the related liability (e.g., the consolidated obligation bond used to fund the advance) by converting both fixed-rate instruments to a variable rate using interest-rate swaps;
- reduce funding costs by combining a derivative with a consolidated obligation because the cost of a combined funding structure can be lower than the cost of a comparable consolidated obligation bond;
- reduce the interest-rate sensitivity and repricing gaps of assets and liabilities;
- mitigate the adverse earnings effects of the shortening or lengthening of certain assets (e.g., mortgage assets) and liabilities;
- protect the value of existing asset or liability positions;
- manage embedded options in assets and liabilities; and
- achieve overall asset/liability management objectives.

The total notional amount of the Bank's outstanding derivatives was $81.2 billion and $59.5 billion as of December 31, 2019 and 2018, respectively. The contractual or notional amount of a derivative is not a measure of the amount of credit risk from that transaction; rather, the notional amount serves as a basis for calculating periodic interest payments or cash flows.

The Bank may enter into derivatives concurrently with the issuance of consolidated obligations with embedded options. When issuing bonds, the Bank generally simultaneously enters into derivatives to, in effect, convert fixed-rate liabilities into variable-rate liabilities. The continued attractiveness of such debt depends on price relationships in both the bond and derivatives markets. If conditions in these markets change, the Bank may alter the types or terms of the bonds issued. Similarly, the Bank may enter into derivatives in conjunction with the origination of advances with embedded options. Issuing fixed-rate advances while simultaneously entering into derivatives, in effect, converts fixed-rate advances into variable-rate earning assets.

The Bank is subject to credit risk in all derivatives due to potential nonperformance by the derivative counterparty. For further discussion as to how the Bank manages its credit risk and market risk on its derivatives, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operation—Risk Management.

Competition

Advances. A number of factors affect demand for the Bank's advances, including, but not limited to, the availability and cost of other sources of liquidity for the Bank's members, such as demand deposits, brokered deposits, and the repurchase market. The Bank individually competes with other suppliers of secured and unsecured wholesale funding. Such other suppliers may include investment banks, commercial banks, and in certain circumstances, other FHLBanks. Smaller members may have access to alternative funding sources through sales of securities under agreements to repurchase, while larger members may have access to all the alternatives listed above. Larger members also may have independent access to the national and global credit markets. The availability of alternative funding sources to members can significantly influence the demand for the Bank's advances and can vary as a result of a number of factors, including market conditions, member liquidity levels, members' creditworthiness, and availability of collateral.

Debt Issuance. The Bank competes with Federal National Mortgage Association (Fannie Mae), Federal Home Loan Mortgage Corporation (Freddie Mac), other GSEs, and the U.S. Treasury, as well as corporate and supranational entities for funds raised through the issuance of unsecured debt in the national and global debt markets. Increases in the supply of competing debt products may, in the absence of increases in demand, result in higher debt costs or lesser amounts of debt issued at the same cost than otherwise would be the case. In addition, the availability and cost of funds raised through the issuance of certain types of unsecured debt may be affected adversely by regulatory initiatives that tend to reduce investments by certain depository institutions in unsecured debt with greater price volatility or interest-rate sensitivity than fixed-rate, fixed-maturity instruments of the same maturity. Further, a perceived or actual higher level of government support for other GSEs may increase demand for their debt securities relative to similar FHLBank securities.

Interest-rate Exchange Agreements. The sale of callable debt and the simultaneous execution of callable interest-rate swaps that mirror the debt have been important sources of competitive funding for the Bank. As such, the availability of markets for callable debt and interest-rate swaps may be an important determinant of the Bank's relative cost of funds. There is considerable competition among high credit quality issuers in the markets for these instruments.

Regulatory Oversight, Audits, and Examinations

The Finance Agency supervises and regulates the FHLBanks. The Finance Agency is responsible for ensuring that (1) the FHLBanks operate in a safe and sound manner, including maintenance of adequate capital and internal controls; (2) the operations and activities of the FHLBanks foster liquid, efficient, competitive, and resilient national housing finance markets; (3) the FHLBanks comply with applicable laws and regulations; and (4) the FHLBanks carry out their housing finance mission through authorized activities that are consistent with the public interest. In this capacity, the Finance Agency issues regulations and policies that govern, among other things, the permissible activities, powers, investments, risk-management practices, and capital requirements of the FHLBanks, and the authorities and duties of FHLBank directors. The Finance Agency conducts annual, on-site examinations of the Bank, as well as periodic off-site reviews. In addition, the Bank must submit to the Finance Agency monthly financial information on the condition and results of operations of the Bank. The Bank is also subject to regulation by the SEC, the Financial Crimes Enforcement Network (FinCEN), and the Commodity Futures Trading Commission.

The Government Corporation Control Act provides that, before a government corporation (which includes each of the FHLBanks) issues and offers obligations to the public, the Secretary of the Treasury shall prescribe (1) the form, denomination, maturity, interest rate, and conditions of the obligations; (2) the time and manner in which issued; and (3) the selling price. Under the FHLBank Act, the Secretary of the Treasury has the authority, at his discretion, to purchase consolidated obligations up to an aggregate principal amount of $4.0 billion. No borrowings under this authority have been outstanding since 1977.

The Comptroller General has authority under the FHLBank Act to audit or examine the Finance Agency and the Bank and to decide the extent to which they fairly and effectively fulfill the purposes of the FHLBank Act. Furthermore, the Government Corporation Control Act provides that the Comptroller General may review any audit of the financial statements conducted by an independent registered public accounting firm. If the Comptroller General conducts such a review, he or she must report the results and provide his or her recommendations to Congress, the Office of Management and Budget, and the FHLBank in question. The Comptroller General also may conduct his or her own audit of any financial statements of the Bank.

The Bank has an internal audit department; the Bank's board of directors has an audit committee; and an independent registered public accounting firm audits the annual financial statements of the Bank. The independent registered public accounting firm conducts these audits following the standards of the Public Company Accounting Oversight Board (United States) and *Government Auditing Standards* issued by the Comptroller General. The Finance Agency receives the Bank's Report and audited financial statements. The Bank must submit annual management reports to Congress, the President of the United States, the Office of Management and Budget, and the Comptroller General. These reports include audited financial statements, a statement of internal accounting and administrative control systems, and the report of the independent registered public accounting firm on the financial statements.

Available Information

The Bank's website is located at www.fhlbatl.com. The content of the Bank's website is not incorporated by reference into this Report or in any other report or document that the Bank files with the SEC, and any references to the Bank's website are intended to be inactive textual references only.

Personnel

As of December 31, 2019, the Bank employed 312 full-time and three part-time employees.

Taxation/Assessments

The Bank is exempt from ordinary federal, state, and local taxation, except employment and real property taxes. However, each FHLBank must set aside 10 percent of their income subject to assessment for the AHP, or such additional prorated sums as may be required so that the aggregate annual contribution of the FHLBanks is not less than $100 million. The aggregate annual contribution of the FHLBanks exceeded $100 million for the years ended December 31, 2019, 2018, and 2017. For purposes of the AHP calculation, each FHLBank's income subject to assessment is defined as the individual FHLBank's net income before assessments, plus interest expense related to mandatorily redeemable capital stock. If an FHLBank experiences a net loss for a full year, the FHLBank would have no obligation to the AHP for that year since each FHLBank's required annual AHP contribution is limited to its annual income subject to assessment. AHP assessments for the Bank were $41 million, $46 million, and $39 million for the years ended December 31, 2019, 2018, and 2017, respectively.

Item 1A. Risk Factors.

The following discussion summarizes some of the more important risks that the Bank faces. This discussion is not exhaustive, and there may be other risks that the Bank faces, which are not described below. These risks should be read in conjunction with the other information included in this Report, including, without limitation, in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, the financial statements and notes, and "Special Cautionary Notice Regarding Forward-looking Statements." The risks described below, if realized, could negatively impact the Bank's business operations, financial condition, and future results of operations and, among other things, could result in the Bank's inability to pay dividends on, and/or repurchase or redeem, its capital stock.

Business and Regulatory Risk

The Bank is subject to a complex body of laws and regulations, which could change or be applied in a manner detrimental to the Bank's operations.

The FHLBanks are GSEs, organized under the authority of the FHLBank Act, and governed by federal laws and regulations as adopted and applied by the Finance Agency. Congress may amend the FHLBank Act or amend or adopt other statutes in ways that significantly affect the rights and obligations of the FHLBanks and the manner in which the FHLBanks carry out their housing finance mission and business operations. New or modified legislation enacted by Congress or regulatory requirements applied or imposed by the Finance Agency or other financial services regulators could have a negative effect on the Bank's ability to conduct business or on the cost of doing business. For example, from time to time, there have been several legislative efforts and policy proposals regarding reform of the federal support of U.S. housing finance, specifically targeting Fannie Mae and Freddie Mac. If implemented, these plans may also directly and indirectly impact other GSEs that support the U.S. housing market, including the FHLBanks. In addition, certain regulations affecting our members could impact the extent to which they can engage in business with the Bank.

Changes in statutory or regulatory requirements, or their application, could result in, among other things, an increase in the FHLBanks' cost of funding and regulatory compliance; a change in membership or permissible business activities; additional liquidity requirements; or a decrease in the size, scope, or nature of the FHLBanks' lending or investment activities, any of which could negatively impact the Bank's financial condition and results of operations.

Refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Legislative and Regulatory Developments for a discussion of recent legislative and regulatory activity that could affect the Bank.

Competition for advances and refinancing risk on short-term advances could have an adverse effect on earnings.

We operate in a highly competitive environment. Advances are the Bank's primary product offering and represented 64.8 percent of the Bank's total assets for the year ended December 31, 2019. Demand for advances is affected by, among other factors, the cost and availability of other sources of liquidity for the Bank's members, including deposits. The Bank competes with other suppliers of wholesale funding, both secured and unsecured. Such other suppliers may include the United States government, investment banks, commercial banks and, in certain circumstances, other FHLBanks with which members have a relationship through affiliates. Large institutions may also have independent access to the national and global credit markets. From time to time, these alternative funding sources may offer more favorable terms on their loans than the Bank does on its advances. Any change made by the Bank in the pricing of its advances in an effort to effectively compete with these competitive funding sources may decrease the Bank's profitability on advances, which could have a material adverse impact on the Bank's financial condition and results of operations, including dividend yields to members.

The prolonged low interest rate environment has resulted in a concentration of short-term advances. The Bank expects this short-term advance preference to continue during 2020. If members do not extend or renew these short-term advances as they come due, the Bank may experience a significant reduction in advances, which could have a material adverse impact on the Bank's financial condition and results of operations. Advances due in one year or less comprised 66.8 percent of the Bank's total advances outstanding as of December 31, 2019.

The Bank is exposed to risks because of customer concentration.

The Bank is subject to customer concentration risk as a result of the Bank's reliance on a relatively small number of member institutions for a large portion of the Bank's total advances and resulting interest income. The Bank's largest borrowers as of December 31, 2019, were Truist Bank, which accounted for $17.5 billion, or 18.2 percent, Navy Federal Credit Union, which accounted for $10.3 billion, or 10.6 percent, and Bank of America, National Association, which accounted for $10.0 billion, or 10.4 percent, of the Bank's total advances then outstanding. In addition, as of December 31, 2019, 10 of the Bank's member institutions (including Truist Bank, Navy Federal Credit Union, and Bank of America, National Association) collectively accounted for $71.8 billion, or 74.4 percent, of the Bank's total advances then outstanding. The financial services industry continues to experience consolidation, including among the Bank's members. If, for any reason, the Bank were to lose, or experience a decrease in the amount of, its business relationships with its largest borrower or a combination of several of its large borrowers - whether as the result of any such member becoming a party to a merger or other transaction, or as a result of market conditions, competition or otherwise - the Bank's financial condition and results of operations could be negatively affected.

Liquidity Risk

The Bank's funding depends upon its ability to regularly access the capital markets.

The Bank's primary source of funds is from the sale of consolidated obligations in the capital markets, including the short-term discount note market. The Bank competes with Fannie Mae, Freddie Mac, other GSEs, and the U.S. Treasury, as well as corporate and supranational entities for funds raised through the issuance of consolidated obligations. The Bank's ability to obtain funds through the sale of consolidated obligations depends in part on prevailing conditions in the capital markets (including investor demand), such as the effects of any reduced liquidity in financial markets, which are beyond the Bank's control. The failure to obtain such funds on terms and conditions favorable to the Bank could adversely impact the Bank's ability to manage its future liquidity.

Compliance with regulatory contingency liquidity guidance could restrict investment activities and adversely impact net interest income.

Liquidity is necessary to satisfy members' borrowing needs on a timely basis, repay maturing and called consolidated obligations, and meet other obligations and operating requirements. Many members rely on the Bank as a source of standby liquidity, so the Bank attempts to be in a position to meet member funding needs on a timely basis. The Bank complies with regulatory operational liquidity and contingent liquidity requirements, which are designed to provide sufficient liquidity and to protect against temporary disruptions in the capital markets that affect the FHLB System's access to funding. In 2018, the Finance Agency issued new liquidity requirements in a separate regulatory directive. These liquidity requirements have required the Bank to hold an additional amount of liquid assets, which could make it more challenging for the Bank to meets its core mission asset ratio, and could reduce the Bank's ability to invest in higher-yielding assets and adversely impact net interest income.

Market Risk

Changes in interest rates could significantly affect the Bank's earnings.

Like many financial institutions, the Bank realizes income primarily from the spread between interest earned on the Bank's outstanding loans and investments and interest paid on the Bank's borrowings and other liabilities. Although the Bank uses a number of measures to monitor and manage changes in interest rates, the Bank may experience "gaps" in the interest-rate sensitivities of its assets and liabilities resulting from duration mismatches. The existence of gaps in interest-rate sensitivities means that either the Bank's interest-bearing liabilities will be more sensitive to changes in interest rates than its interest-earning assets, or vice versa. In either case, if interest rates move contrary to the Bank's position, any such gap could adversely affect the net present value of the Bank's interest-sensitive assets and liabilities, which could negatively affect the Bank's financial condition and results of operations.

The Bank's businesses and results of operations are affected by the fiscal and monetary policies of the U.S. government, foreign governments and their agencies. The Federal Reserve Board's policies directly and indirectly influence the yield on interest-earning assets and the cost of interest-bearing liabilities, which could affect the success of the Bank's asset and liability management activities and negatively affect the Bank's financial condition and results of operations. Refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Net Interest Income for further discussion of the Bank's yield on assets and interest-rate spread.

The Bank relies upon derivative instruments to reduce its interest-rate risk associated with certain assets and liabilities on the Bank's balance sheet, including MBS and advances, and the Bank may be required to change its investment strategies and advance product offerings if it is not able to enter into effective derivative instruments on acceptable terms.

The Bank uses a significant amount of derivative instruments to attempt to reduce its interest-rate risk and mortgage prepayment risk. The Bank determines the nature and quantity of hedging transactions based on various factors, including market conditions and the expected volume and terms of advances. As a result, the Bank's effective use of these instruments depends on the ability of the Bank to determine the appropriate hedging positions in light of the Bank's assets, liabilities, and prevailing and anticipated market conditions. In addition, the effectiveness of the Bank's hedging strategy depends upon the Bank's ability to enter into these instruments with acceptable parties, upon terms satisfactory to the Bank, and in the quantities necessary to hedge the Bank's corresponding obligations.

Certain changes to statutory and regulatory requirements for derivative transactions, including rules that would subject non-cleared swaps to a mandatory two-way initial margin requirement, among other things, could adversely affect the liquidity and pricing of derivative transactions entered into by the Bank, making derivative trades more costly and less attractive as risk management tools. By March 31, 2020, the Bank will cease swapping new transactions to LIBOR in accordance with the supervisory letter issued by the Finance Agency. Many of the Bank's derivative instruments are swapped to LIBOR-based rates and indices, and there can be no assurances that ongoing efforts to transition away from LIBOR, including the market's adoption of alternative benchmarks and new contractual terms for legacy transactions, will not adversely affect the trading market or value of derivatives.

If the Bank is unable to manage its hedging positions properly or is unable to enter into hedging instruments upon acceptable terms, the Bank may be unable to manage its interest-rate and other risks or may be required to change its investment strategies and advance product offerings, which could affect the Bank's financial condition and results of operations.

Prepayment or refinancing of mortgage assets could affect earnings.

The Bank invests in MBS and has at times invested in whole mortgage loans. Changes in interest rates can significantly affect the prepayment patterns of these assets, and such prepayment patterns could affect the Bank's earnings. In the Bank's experience, it is difficult to hedge prepayment risk in mortgage loans. Therefore, prepayments of mortgage assets could have an adverse effect on the income of the Bank.

The Bank may not be able to pay dividends or to repurchase or redeem members' capital stock consistent with past practice.

The Bank's board of directors may declare dividends on the Bank's capital stock, payable to members, from the Bank's unrestricted retained earnings and current net earnings. The Bank's ability to pay dividends and to repurchase or redeem capital stock is subject to compliance with statutory and regulatory liquidity and capital requirements. The Bank's financial management policy addresses regulatory guidance issued to all FHLBanks regarding retained earnings. It requires the Bank to establish a target amount of retained earnings by considering factors such as forecasted income, mark-to-market adjustments on derivatives and trading securities, market risk, operational risk, and credit risk, all of which may be influenced by events beyond the Bank's control. The Bank's capital plan addresses minimum regulatory capital requirements. Events such as changes in interest rates, collateral value, credit quality of members, changes to regulatory capital requirements, and any future credit losses may affect the adequacy of the Bank's retained earnings and may require the Bank to reduce its dividends, suspend dividends altogether, or limit capital stock repurchases and redemptions to achieve and maintain the targeted amount of retained earnings or regulatory capital requirements. These actions could cause a reduction in members' demand for advances, or make it difficult for the Bank to retain existing members or to attract new members.

Credit Risk

The Bank's exposure to credit risk could have an adverse effect on the Bank's financial condition and results of operations.

The Bank faces credit risk on advances, standby letters of credit, investments, derivatives, and mortgage loan assets. The Bank requires advances and standby letters of credit to be fully secured with collateral. The Bank evaluates the types of collateral pledged by the member and assigns a borrowing capacity to the collateral, based on the risk associated with that type of collateral. If the Bank has insufficient collateral before or after an event of payment default or failure of the member or the Bank is unable to liquidate the collateral for the value assigned to it in the event of a payment default or failure of a member, the Bank could experience a credit loss on advances or standby letters of credit, which could adversely affect its financial condition and results of operations.

The Bank assumes secured and unsecured credit risk exposure associated with securities transactions, money market transactions, supplemental mortgage insurance agreements, and derivative contracts. The Bank routinely executes transactions with counterparties in the financial services industry, including commercial banks, brokers and dealers, investment banks, and other institutional clients. The insolvency or other inability of a significant counterparty to perform its obligations under a derivative contract or other agreement could have an adverse effect on the Bank's financial condition and results of operations. The Bank's credit risk may be exacerbated based on market movements that impact the value of the derivative or collateral positions, the failure of a counterparty to return collateral owed by the counterparty to the Bank, or when the collateral pledged to the Bank cannot be realized upon or is liquidated at prices not sufficient to recover the full amount of the credit or derivative exposure due to the Bank. Any failure to properly perfect the Bank's security interest in collateral or any disruption in the servicing of collateral in the event of a default could create credit losses for the Bank.

The Bank uses master derivative contracts that contain provisions that require the Bank to net the exposure under all transactions with a counterparty to one amount in order to calculate collateral requirements. Although the Bank attempts to monitor the creditworthiness of all counterparties, it is possible that the Bank may not be able to terminate the agreement with a foreign commercial bank before the counterparty would become subject to an insolvency proceeding.

The Bank is jointly and severally liable for payment of principal and interest on the consolidated obligations issued by the other FHLBanks.

Each of the FHLBanks relies upon the issuance of consolidated obligations as a primary source of funds. Consolidated obligations are the joint and several obligations of all of the FHLBanks, backed only by the financial resources of the FHLBanks. Accordingly, the Bank is jointly and severally liable with the other FHLBanks for the consolidated obligations issued by the FHLBanks through the Office of Finance.

The Finance Agency by regulation, may require any FHLBank to make principal or interest payments due on any consolidated obligation at any time, whether or not the FHLBank that was the primary obligor has defaulted on the payment of that obligation. The Finance Agency may allocate the liability among one or more FHLBanks on a pro rata basis or on any other basis the Finance Agency may determine. Accordingly, the Bank could incur significant liability beyond its primary obligation under consolidated obligations due to the failure of other FHLBanks to meet their obligations, which could negatively impact the Bank's financial condition and results of operations.

Changes in the Bank's credit ratings may adversely affect the Bank's ability to issue consolidated obligations on acceptable terms, and such changes may be outside the Bank's control due to changes in the U.S. sovereign ratings.

As of December 31, 2019, the Bank has an issuer credit rating of Aaa/P-1 by Moody's Investors Service (Moody's) and AA+/A-1+ by Standard and Poor's Ratings Services (S&P). The consolidated obligations of the FHLBanks (consolidated bonds and consolidated discount notes) carry credit ratings of Aaa/P-1 by Moody's and AA+/A-1+ by S&P. All ratings are with a stable outlook. Because of the FHLBanks' GSE status, the credit ratings of the FHLBank System and the FHLBanks are directly influenced by the sovereign credit of the U.S., which is beyond the Bank's control. Downgrades to the U.S. sovereign credit rating and outlook would likely result in downgrades in the credit ratings and outlook on the Bank and the consolidated obligations of the FHLBanks even though the consolidated obligations are not obligations of the United States.

These ratings are subject to revision or withdrawal at any time by the rating agencies; therefore, the Bank may not be able to maintain these credit ratings. Negative ratings actions or negative guidance, including as a consequence of U.S. debt levels, the U.S. fiscal budget process, or other uncertainties may adversely affect the Bank's cost of funds and ability to issue consolidated obligations or other financial instruments on acceptable terms, trigger additional collateral requirements under the Bank's derivative contracts, and reduce the attractiveness of the Bank's standby letters of credit. This could have a negative impact on the Bank's financial condition and results of operations, including the Bank's ability to make advances on acceptable terms, pay dividends, or redeem or repurchase capital stock.

Operational Risk

The financial models and the underlying assumptions used to value financial instruments and manage risk may differ materially from actual results.

The Bank makes significant use of business and financial models for managing risk. For example, the Bank uses models to measure and monitor exposures to various risks, including interest rate, prepayment, and other market risks, as well as credit risk. The Bank also uses models in determining the fair value of certain financial instruments when independent price quotations are not available or reliable. The degree of judgment in determining the fair value of a financial instrument is dependent upon the availability of quoted market prices or observable market parameters. If market quotes are not available, fair values are based on discounted cash flows using market estimates of interest rates and volatility, dealer prices or prices of similar instruments. Pricing models and their underlying assumptions are based on the Bank's best estimates for discount rates, prepayments, market volatility, and other factors. These assumptions may have a significant effect on the reported fair values of assets and liabilities, including derivatives, the related income and expense, and the expected future behavior of assets and liabilities.

While models used by the Bank to value instruments and measure risk exposures are subject to periodic validation by the Bank's staff and independent parties, rapid changes in market conditions could impact the value of the Bank's instruments, as well as the Bank's financial condition and results of operations. Models are inherently imperfect predictors of actual results because they are based on assumptions about future performance. Changes in any models or in any of the assumptions, judgments, or estimates used in the models may cause the results generated by the model to be materially different from actual results.

If the models are not reliable or the Bank does not use them appropriately, the Bank could make poor business decisions, including asset and liability management decisions, or other decisions, which could result in an adverse financial impact. Further, any strategies that the Bank employs to attempt to manage the risks associated with the use of models may not be effective.

The Bank relies heavily upon information systems and other technology, and any disruption or failure of such information systems or other technology could adversely impact its reputation, financial condition, and results of operations.

The Bank relies heavily upon information systems and other technology to conduct and manage its business. The Bank owns some of these systems and technology, and third parties own and provide to the Bank some of those systems and technology. Computer systems, software, and networks can be vulnerable to failures and interruptions, including as the result of any cyberattacks (e.g., breaches, unauthorized access, misuse, computer viruses or other malicious code, and other events) or other breaches of technology security, that may derive from human error or malfeasance on the part of employees or third parties, other disruptions during the process of upgrading or replacing computer software or hardware, failure to implement key information technology initiatives, or accidental technological failure. These failures, interruptions, or cyberattacks could jeopardize the confidentiality or integrity of information, including personally identifiable information, result in fraudulent wire transfers, or otherwise interrupt the Bank's ability to conduct and manage its business effectively, including, without limitation, its deposit account management, hedging activities, and advances activities. The Bank can make no assurance that it or its third-party vendors will be able to prevent, timely and adequately address, or mitigate the negative effects of any such failure, interruption, or cyberattack.

Like many financial institutions, the Bank has seen an increase in cyberattack attempts. For the Bank, these attempts have predominantly occurred through phishing and social engineering scams, and ransomware. The Bank's operations rely on the availability and functioning of its main office and off-site backup facilities. The Bank devotes substantial resources and deploys preventative measures to secure the Bank's systems, including firewalls, email security, and anti-virus solutions. These measures, or the Bank's system redundancies and other continuity measures, may be ineffective or insufficient, and the Bank's business continuity and disaster recovery planning may not be sufficient for all eventualities. A failure or interruption in our business continuity, disaster recovery or certain information systems, or a cybersecurity event, could significantly harm the Bank's reputation, its customer relations, risk management, and profitability, and could result in financial losses, legal and regulatory sanctions, increased costs, or other harm. While the Bank maintains insurance coverage that is intended to address certain aspects of data security risks, such insurance may be insufficient to cover all losses or types of claims that may arise. As cyber threats continue to evolve, the Bank may be required to expend significant additional resources to continue to modify or enhance its layers of defense, to investigate and remediate any information security vulnerabilities, or to comply with regulatory requirements.

Additionally, the Bank relies on the Office of Finance to facilitate the issuance and servicing of its consolidated obligations. A failure or interruption of the Office of Finance's operating systems as a result of breaches of technology security or cyberattacks could disrupt the Bank's access to funds, and could significantly harm the Bank's reputation, its customer relations, risk management, and profitability, and could result in financial losses, legal and regulatory sanctions, increased costs or other harm.

The Bank's controls and procedures may fail or be circumvented, and risk management policies and procedures may be inadequate.

The Bank may fail to identify and manage risks related to a variety of aspects of its business, including operational risk, legal and compliance risk, interest-rate risk, liquidity risk, market risk, and credit risk. The Bank has adopted controls, procedures, policies, and systems to monitor and manage these risks. The Bank's management cannot provide complete assurance that those controls, procedures, policies, and systems are adequate to identify and manage the risks inherent in the Bank's business. In addition, because the Bank's business continues to evolve, the Bank may fail to fully understand the implications of changes in the business, and therefore, it may fail to enhance the Bank's risk governance framework to timely or adequately address those changes. Failed or inadequate controls and risk management practices could have an adverse effect on the Bank's financial condition and results of operations.

An economic downturn or natural disaster in the Bank's region, or a pandemic, could adversely affect the Bank's profitability and financial condition.

Economic recession over a prolonged period or other unfavorable economic conditions in the Bank's region (including on a state or local level) could have an adverse effect on the Bank's business, including the demand for Bank products and services, and the value of the Bank's collateral securing advances, investments, and mortgage loans held in portfolio. Portions of the Bank's region also are subject to risks from hurricanes, tornadoes, floods, or other natural disasters, and all are subject to pandemic risk. These natural disasters, including those resulting from significant climate changes, could damage or dislocate the facilities of the Bank's members, may damage or destroy collateral that members have pledged to secure advances or the mortgages the Bank holds for portfolio, or the livelihood of borrowers of the Bank's members, or otherwise could cause significant economic dislocation in the affected areas of the Bank's region.

Additionally, the impact of widespread health emergencies may adversely impact the Bank's results of operations, such as the potential impact from the recent outbreak of the coronavirus, which originated in Wuhan, Hubei Province, China but has now spread to other countries, including the United States. If the Bank's members are adversely affected, or if the virus leads to a widespread health emergency that impacts the Bank's employees or vendors, or the borrowers of the Bank's members, or economic growth generally, the Bank's financial condition and results of operations could be adversely affected, despite having no direct operations in China.

Possible replacement of the LIBOR benchmark interest rate may have an impact on the Bank's business, financial condition or results of operations.

On July 27, 2017, the Financial Conduct Authority, a regulator of financial services firms in the United Kingdom, announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. The Alternative Reference Rates Committee, which was convened by the Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York in order to identify best practices for alternative reference rates, identify best practices for contract robustness, develop an adoption plan, and create an implementation plan with metrics of success and a timeline, has proposed the Secured Overnight Financing Rate (SOFR) as its recommended alternative to LIBOR. The Federal Reserve Bank of New York began publishing SOFR rates in April 2018. SOFR is intended to be a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. As noted throughout this report, many of the Bank's assets and liabilities are indexed to LIBOR. The Bank is evaluating the potential impact of and planning for the eventual replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as the dominant replacement. As discussed elsewhere in this report, the Finance Agency has imposed limitations on the Bank's ability to enter into certain LIBOR financial transactions with maturities that extend beyond 2021. The market transition away from LIBOR is expected to continue to be gradual, complicated and uncertain, including the need to develop term and credit adjustments to accommodate differences between LIBOR and alternative reference rates such as SOFR. Introduction of an alternative rate also may introduce additional basis risk for market participants, including the Bank, as an alternative index is utilized along with LIBOR. Further, market and industry conventions may not align between cash products and derivatives used to hedge them. There can be no guarantee that alternatives may or may not be developed with additional complications. The Bank is not able to predict whether LIBOR will cease to be available after 2021, whether SOFR will become a widely accepted benchmark in place of LIBOR, or what the impact of a possible transition to SOFR or an alternate replacement will have on the Bank's business, financial condition, or results of operations.

The loss of key personnel or difficulties recruiting and retaining qualified personnel could adversely impact the Bank's business and financial results.

The Bank relies on key personnel for many of its functions and has a relatively small workforce, given the size and complexity of its business. The Bank's ability to attract and retain such personnel is important for it to conduct its operations and measure and maintain risk and financial controls. Additionally, the Bank must continue to recruit, retain and motivate a qualified and diverse pool of employees, both to maintain the Bank's current business, including succession planning, and to execute its strategic initiatives. If the Bank is unable to recruit, retain and motivate such employees, its business and financial performance may be adversely affected.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

The Bank owns approximately 235,514 square feet of office space at 1475 Peachtree Street, NE, Atlanta, Georgia 30309. The Bank occupies approximately 219,260 square feet of this space and leases the remaining space to tenants. The Bank leases an off-site backup facilities comprising approximately 9,402 square feet for the Bank's disaster recovery center. The Bank also leases 2,993 square feet of office space located in Washington, D.C., which is shared with two other FHLBanks. The Bank's management believes these facilities are well maintained and are adequate for the purposes for which they currently are used.

Item 3. Legal Proceedings.

The Bank is subject to various legal proceedings and actions from time to time in the ordinary course of its business. After consultation with legal counsel, management does not anticipate that the ultimate liability, if any, arising out of those matters presently known to the Bank will have a material adverse impact on the Bank's financial condition or results of operations.

Item 4. Mine Safety Disclosure.

Not applicable.

PART II

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

The Bank's members own substantially all of the capital stock of the Bank. Former members and certain non-members, which own the Bank's capital stock as a result of a merger or acquisition of the Bank's member, own the remaining capital stock to support business transactions still carried on the Bank's balance sheet. The Bank's capital stock is not publicly traded or quoted, and there is no established marketplace for it, nor does the Bank expect a market to develop. The FHLBank Act and the Bank's capital plan prohibit the trading of its capital stock, except in connection with merger or acquisition activity.

A member may request in writing that the Bank redeem its excess capital stock at par value. Excess capital stock is FHLBank capital stock not required to be held by the member to meet its minimum stock requirement under an FHLBank's capital plan. Any such redemption request is subject to a five year redemption period after the Bank receives the request, subject to certain regulatory requirements and to the satisfaction of any ongoing stock investment requirements applicable to the member. In addition, any member may withdraw from membership upon five years written notice to the Bank. Subject to the member's satisfaction of any outstanding indebtedness and other statutory requirements, the Bank redeems the member's capital stock at par value upon withdrawal from membership. The Bank, in its discretion, may repurchase shares held by a member in excess of its required stock holdings, subject to certain limitations and thresholds in the Bank's capital plan. The par value of all capital stock is $100 per share, and the operating threshold for daily excess capital stock repurchases is $100 thousand. As of February 29, 2020, the Bank had 814 member and non-member shareholders and 49 million shares of its capital stock outstanding (including mandatorily redeemable shares).

Finance Agency regulations prohibit any FHLBank from issuing dividends in the form of capital stock or otherwise issuing new excess capital stock if that FHLBank has excess capital stock greater than one percent of that FHLBank's total assets or if issuing such dividends or new excess capital stock would cause that FHLBank to exceed the one percent excess capital stock limitation. As of December 31, 2019, the Bank's excess capital stock did not exceed one percent of its total assets. Historically, the Bank has not issued dividends in the form of capital stock or issued new excess capital stock, and a member's existing excess activity-based stock is applied to any activity-based stock requirements related to new advances.

The Bank's board of directors has adopted a financial management policy that includes a targeted amount of retained earnings separate and apart from the restricted retained earnings account. For further discussion of those provisions of the financial management policy, dividends, and the Amended Joint Capital Enhancement Agreement (Capital Agreement) pursuant to which the restricted retained earnings account was established, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Condition - Capital.

Because only members, former members, and certain non-member institutions, not individuals, may own the Bank's capital stock, the Bank has no equity compensation plans.

The Bank also issues standby letters of credit in the ordinary course of its business. From time to time, the Bank provides standby letters of credit to support members' obligations, members' standby letters of credit, or obligations issued to support unaffiliated, third-party offerings of notes, bonds, or other securities. The Bank issued $49.6 billion, $39.2 billion, and $40.7 billion in standby letters of credit in 2019, 2018, and 2017, respectively. To the extent that these standby letters of credit are securities for purposes of the Securities Act of 1933, the issuance of the standby letter of credit by the Bank is exempt from registration pursuant to section 3(a)(2) thereof.

Item 6. Selected Financial Data.

The following table presents selected historical financial data of the Bank and should be read in conjunction with the Bank's 2019 audited financial statements and related notes thereto and with Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, which are included elsewhere in this Report. The following data, insofar as it relates to each of the years 2015 to 2019, have been derived from annual financial statements, including the statements of condition as of December 31, 2019 and 2018 and the related statements of income for the years ended December 31, 2019, 2018, and 2017 and notes thereto appearing elsewhere in this Report. The financial information presented in the following table and in the financial statements included in this Report is not necessarily indicative of the financial condition or results of operations of any other interim or annual periods (dollars in millions):

	As of or for the Years Ended December 31,				
	2019	2018	2017	2016	2015
Statements of Condition (as of year end)					
Total assets [1]	$ 149,857	$ 154,476	$ 146,566	$ 138,671	$ 142,246
Advances	97,167	108,462	102,440	99,077	104,168
Investments [2]	50,617	44,309	40,378	36,510	35,175
Mortgage loans held for portfolio	297	361	436	524	586
Allowance for credit losses on mortgage loans	(1)	(1)	(1)	(1)	(2)
Interest-bearing deposits	1,492	1,176	1,177	1,118	1,084
Consolidated obligations, net:					
Discount notes [1] [3]	52,134	66,025	50,139	41,292	69,434
Bonds [1] [3]	88,503	79,114	87,523	88,647	63,953
Total consolidated obligations, net [1] [3]	140,637	145,139	137,662	129,939	133,387
Mandatorily redeemable capital stock	1	1	1	1	14
Affordable Housing Program payable	89	85	77	69	63
Capital stock - putable	4,988	5,486	5,154	4,955	5,101
Retained earnings	2,153	2,110	2,003	1,892	1,840
Accumulated other comprehensive income	22	51	110	104	75
Total capital	7,163	7,647	7,267	6,951	7,016
Statements of Income (for the year ended)					
Net interest income [4]	535	561	157	334	243
Reversal of provision for credit losses	—	—	—	(1)	(1)
Net impairment losses recognized in earnings	(13)	(3)	(2)	(3)	(5)
Net gains (losses) on trading securities	3	(1)	(5)	(30)	(61)
Net (losses) gains on derivatives and hedging activities	(4)	29	341	119	261
Standby letters of credit fees	24	25	26	28	28
Other income [5]	9	1	7	(3)	2
Noninterest expense	146	150	136	137	135
Income before assessment	408	462	388	309	334
Affordable Housing Program assessment	41	46	39	31	33
Net income	367	416	349	278	301
Performance Ratios (%)					
Return on equity [6]	5.09	5.54	4.97	4.08	4.63
Return on assets [7]	0.25	0.27	0.25	0.20	0.23
Net interest margin [8]	0.36	0.37	0.11	0.24	0.19
Regulatory capital ratio (as of year end) [9]	4.77	4.92	4.88	4.94	4.89
Equity to assets ratio [10]	4.85	4.93	4.97	4.88	4.91
Dividend payout ratio [11]	88.25	74.12	68.40	81.08	68.48

(1) The Bank adopted new accounting guidance related to the presentation of debt issuance costs effective January 1, 2016. As a result, $7 million of debt issuance costs that were included in other assets were reclassified as a reduction in the corresponding consolidated obligations balance on the Bank's Statements of Condition as of December 31, 2015.
(2) Investments consist of interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, and securities classified as trading, available-for-sale, and held-to-maturity.
(3) The amounts presented are the Bank's primary obligations on consolidated obligations outstanding. The par value of the other FHLBanks' outstanding consolidated obligations for which the Bank is jointly and severally liable was as follows (in millions):

December 31, 2019	$ 885,114
December 31, 2018	886,081
December 31, 2017	896,441
December 31, 2016	859,361
December 31, 2015	771,948

(4) The Bank adopted new accounting guidance related to derivatives and hedging activities effective January 1, 2019. The impact of this guidance changed the presentation of net interest income as described in Note 17—Derivatives and Hedging Activities to the Bank's audited financial statements.
(5) Other income includes service fees and other items. For the year ended December 31, 2016, amount includes a $6 million loss on litigation settlements, net.
(6) Calculated as net income, divided by average total equity.
(7) Calculated as net income, divided by average total assets.
(8) Net interest margin is net interest income as a percentage of average earning assets.
(9) Regulatory capital ratio is regulatory capital, which does not include accumulated other comprehensive income, but does include mandatorily redeemable capital stock, as a percentage of total assets as of year end.
(10) Calculated as average total equity, divided by average total assets.
(11) Calculated as dividends declared during the year, divided by net income during the year.

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

The following discussion and analysis relates to the Bank's financial condition as of December 31, 2019 and 2018, and results of operations for the years ended December 31, 2019 and 2018. This section explains the changes in certain key items in the Bank's financial statements from year to year, the primary factors driving those changes, the Bank's risk management processes and results, known trends or uncertainties that the Bank believes may have a material effect on the Bank's future performance, as well as how certain accounting principles affect the Bank's financial statements. For a discussion on the comparison between the results of operations for the years ended 2018 and 2017, see the Management's Discussion and Analysis of Financial Condition and Results of Operations, which are contained in the Bank's 2018 Annual Report on Form 10-K, as filed with the SEC on March 7, 2019.

This discussion should be read in conjunction with the Bank's audited financial statements and related notes for the year ended December 31, 2019 included in Item 8 of this Report. Readers also should carefully review "Special Cautionary Notice Regarding Forward-looking Statements" and Item 1A, Risk Factors, for a description of the forward-looking statements in this Report and a discussion of the factors that might cause the Bank's actual results to differ, perhaps materially, from these forward-looking statements.

Executive Summary

Financial Condition

As of December 31, 2019, total assets were $149.9 billion, a decrease of $4.6 billion, or 2.99 percent, from December 31, 2018. This decrease was primarily due to an $11.3 billion, or 10.4 percent, decrease in advances which was due to maturities that occurred during the fourth quarter of 2019 and a decrease in members' liquidity needs. The decrease was partially offset by a $6.3 billion, or 14.2 percent, increase in total investments.

As of December 31, 2019, total liabilities were $142.7 billion, a decrease of $4.1 billion, or 2.82 percent, from December 31, 2018. This decrease was primarily due to a $4.5 billion, or 3.10 percent, decrease in consolidated obligations as a result of lower advances balances as of December 31, 2019.

As of December 31, 2019, total capital was $7.2 billion, a decrease of $484 million, or 6.33 percent, from December 31, 2018. This decrease was primarily due to a decrease in the Bank's subclass B2 activity-based capital stock resulting from a decrease in the total outstanding advances during the year.

Results of Operations

The Bank recorded net income of $367 million for 2019, a decrease of $49 million, or 11.9 percent, from net income of $416 million for 2018. Net interest income attributed $26 million of this decrease. Net interest income was $535 million for 2019, compared to $561 million for 2018.

The decreases in net income and net interest income were primarily related to a decrease in outstanding advances during 2019, compared to 2018. Additionally, changes in interest rates and their subsequent impact on the Bank's derivative positions, interest-earning assets, and interest bearing liabilities contributed to the decrease in net income and net interest income during 2019. These changes in interest rates impacted interest expense related to interest-bearing liabilities more than the offsetting interest income related to interest-earning assets. The impact of derivatives and hedging activities was a reduction to net interest income of $31 million in 2019. Beginning on January 1, 2019, changes in fair value of the derivative hedging instrument and the hedged item attributable to the hedged risk for designated fair value hedges are recorded in net interest income in the same line as the earnings effect of the hedged item. Prior to January 1, 2019, for fair value hedges, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedge item) was recorded in noninterest income as net (losses) gains on derivatives and hedging activities.

One way in which the Bank analyzes its performance is by comparing its annualized return on equity (ROE) to three-month average LIBOR. The Bank has chosen to measure ROE as a spread to average three-month LIBOR because the Bank has significant assets and liabilities priced to average three-month LIBOR. The Bank's ROE was 5.09 percent for 2019, compared to 5.54 percent for 2018. This decrease in ROE was primarily due to the decrease in net income during the year. ROE spread to average three-month LIBOR was 276 basis points for 2019, compared to 323 basis points for 2018. This decrease in the ROE spread to three-month average LIBOR was primarily due to the decrease in ROE.

The Bank's interest-rate spread was 25 basis points for 2019, compared to 28 basis points for 2018. This decrease in the Bank's interest-rate spread was primarily due to changes in interest rates as discussed above, which impacted interest expense related to interest-bearing liabilities more than the offsetting interest income related to interest-earning assets. Decreased advances balances in 2019, compared to 2018, also contributed to the decrease.

Business Outlook

The Bank's business model continues to be focused on enhancing the total value of the cooperative for its members by serving as their trusted advisor. The Bank focuses these efforts on offering readily available, competitively priced advances, a potential return on investment, support for community investment activities, and other credit and noncredit products and services. As part of the Bank's cooperative structure, the Bank has chosen to operate with narrow margins, passing on its low funding costs to members, which causes the Bank's profitability to be sensitive to changes in market conditions.

The state of the economy is a significant component in determining the Bank's overall business outlook as it impacts advance demand, asset and collateral values, member financial stability, funding costs, and many other facets of the Bank's portfolio. While the U.S. economy continued to experience growth in 2019, factors such as interest rates, liquidity levels at member institutions, fiscal and monetary policies, performance of global economies, and regulatory changes could have a significant effect either positive or negative on the Bank's financial performance.

Interest rates are also a significant factor on the Bank's business outlook. The Federal Reserve raised interest rates during 2017 and 2018, and then lowered interest rates during 2019. There is uncertainty as to whether rates in 2020 will move up, down, or remain stable. This uncertainty can impact the Bank's interest rate risk management, profitability, and ROE. It can also impact member advance demand, as rate uncertainty can impact deposit levels at members.

Merger activity involving the Bank's members can impact the Bank's business outlook. As the financial industry continues to experience consolidation, our membership base may decrease, and our advance balance and other business could increase or decrease significantly depending upon the size of the financial institutions involved in the merger. While the Bank's balance sheet is designed to expand and contract based upon advance demand, the Bank's business could be affected by this merger activity, including as a result of a single event, such as the loss of a member's business due to acquisition by a non-member.

Management continues to be focused and engaged on implementing an effective transition away from LIBOR. Many of the Bank's assets and liabilities are indexed to LIBOR, and many of the Bank's derivative transactions are also indexed to LIBOR. In 2019, the Bank began engaging in Overnight Index Swap (OIS) and SOFR-based derivative transactions. There are complexities, risks and uncertainties involved with transitioning to alternative rates, and the transition involves considerable time and resources, all of which can impact the Bank's business outlook.

Financial Condition

The following table presents the distribution of the Bank’s total assets, liabilities, and capital by major class as of the dates indicated (dollars in millions). These items are discussed in more detail below.

	As of December 31,				Increase (Decrease)	
	2019		2018			
	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent
Advances	$ 97,167	64.84	$ 108,462	70.21	$ (11,295)	(10.41)
Investment securities	28,181	18.81	24,799	16.05	3,382	13.63
Other investments	22,436	14.97	19,510	12.63	2,926	15.00
Mortgage loans, net	296	0.20	360	0.23	(64)	(17.61)
Loan to another FHLBank	—	—	500	0.33	(500)	(100.00)
Other assets	1,777	1.18	845	0.55	932	110.25
Total assets	$ 149,857	100.00	$ 154,476	100.00	$ (4,619)	(2.99)
Consolidated obligations, net:						
Discount notes	$ 52,134	36.53	$ 66,025	44.97	$ (13,891)	(21.04)
Bonds	88,503	62.02	79,114	53.88	9,389	11.87
Deposits	1,492	1.05	1,176	0.80	316	26.94
Other liabilities	565	0.40	514	0.35	51	9.97
Total liabilities	$ 142,694	100.00	$ 146,829	100.00	$ (4,135)	(2.82)
Capital stock	$ 4,988	69.63	$ 5,486	71.74	$ (498)	(9.09)
Retained earnings	2,153	30.06	2,110	27.59	43	2.04
Accumulated other comprehensive income	22	0.31	51	0.67	(29)	(56.85)
Total capital	$ 7,163	100.00	$ 7,647	100.00	$ (484)	(6.33)

Advances

The following table presents the Bank’s advances outstanding by year of maturity and the related weighted-average interest rate (dollars in millions):

	As of December 31,			
	2019		2018	
	Amount	Weighted-average Interest Rate (%)	Amount	Weighted-average Interest Rate (%)
Overdrawn demand deposit accounts	$ —	2.50	$ 33	2.50
Due in one year or less	64,413	1.90	72,300	2.50
Due after one year through two years	7,421	2.21	13,298	2.52
Due after two years through three years	5,420	2.36	5,403	2.65
Due after three years through four years	3,382	2.72	4,678	2.56
Due after four years through five years	4,778	2.44	3,997	2.81
Due after five years	11,042	2.61	8,705	3.30
Total par value	96,456	2.09	108,414	2.59
Deferred prepayment fees	(9)		(17)	
Discount on AHP advances	(3)		(4)	
Discount on EDGE [1] advances	(2)		(2)	
Hedging adjustments	725		71	
Total	$ 97,167		$ 108,462	

[1] Economic Development and Growth Enhancement Program

Advances outstanding as of December 31, 2019 decreased by 10.4 percent, compared to December 31, 2018. As a result of shareholder demand, the majority of new advances in 2019 were short-term advances. As of December 31, 2019 and 2018, 64.6 percent and 59.6 percent, respectively, of the Bank's advances were fixed rate. However, the Bank often simultaneously entered into derivatives with the issuance of advances to convert the rates, in effect, into short-term variable interest rates, the majority of which were based on LIBOR. As of December 31, 2019 and 2018, 46.7 percent and 45.3 percent, respectively, of the Bank's fixed-rate advances were swapped, and 2.03 percent and 0.47 percent, respectively, of the Bank's variable-rate advances, which contained optionality, were swapped. The majority of the Bank's variable-rate advances were indexed to LIBOR. By March 31, 2020, the Bank will cease issuing LIBOR-based advances and entering into LIBOR-based derivatives with maturities/termination dates beyond December 31, 2021. The Bank also offers variable-rate advances that may be tied to indices such as the federal funds rate, prime rate, SOFR, or constant maturity swap rates.

The Bank's 10 largest borrowing member institutions had 74.4 percent of the Bank's total advances outstanding as of December 31, 2019. Further information regarding the Bank's 10 largest borrowing member institutions and breakdown of their individual advance balances as of December 31, 2019 is contained in Item 1, Business—Credit Products—Advances. Management believes that the Bank holds sufficient collateral, on a member-specific basis, to secure the advances to all borrowers, including these 10 institutions, and the Bank does not expect to incur any credit losses on these advances.

Supplementary financial data on the Bank's advances is set forth under Item 8, Financial Statements and Supplementary Information (Unaudited).

Investments

The following table presents more detailed information regarding investments held by the Bank (dollars in millions).

	As of December 31,		Increase (Decrease)	
	2019	**2018**	**Amount**	**Percent**
Investment securities:				
Government-sponsored enterprises debt obligations	$ 4,556	$ 2,727	$ 1,829	67.04
U. S. Treasury obligations	1,499	—	1,499	100.00
State or local housing agency debt obligations	1	1	—	—
Mortgage-backed securities:				
U.S. agency obligations-guaranteed residential	89	118	(29)	(25.01)
Government-sponsored enterprises residential	8,642	9,304	(662)	(7.10)
Government-sponsored enterprises commercial	12,518	11,368	1,150	10.11
Private-label residential	876	1,281	(405)	(31.64)
Total mortgage-backed securities	22,125	22,071	54	0.24
Total investment securities	28,181	24,799	3,382	13.63
Other investments:				
Interest-bearing deposits [(1)]	3,810	6,782	(2,972)	(43.81)
Securities purchased under agreements to resell	8,800	3,750	5,050	134.67
Federal funds sold [(2)]	9,826	8,978	848	9.45
Total other investments	22,436	19,510	2,926	15.00
Total investments	$ 50,617	$ 44,309	$ 6,308	14.24

(1) Interest-bearing deposits include a $508 million business money market account with Truist Bank and a $409 million business money market account with Branch Banking and Trust Company, one of the Bank's 10 largest borrowers, as of December 31, 2019 and 2018, respectively.

(2) Federal funds sold includes $100 million with BankUnited, National Association, one of the Bank's 10 largest borrowers as of December 31, 2019, and includes $175 million with BankUnited, National Association, and $425 million with SunTrust Bank, both of which were one of the Bank's 10 largest borrowers as of December 31, 2018.

The increase in total investments was primarily due to the Bank positioning itself to meet new Finance Agency liquidity requirements. Additionally, the amount held in other investments will vary each day based on the Bank's liquidity needs as a result of advances demand, the earnings rates, and the availability of high quality counterparties in the federal funds market. The decrease in interest-bearing deposits was primarily due to a change in interpretation of regulatory guidance related to unsecured credit exposure.

The Finance Agency regulations prohibit an FHLBank from purchasing MBS and asset-backed securities if its investment in such securities would exceed 300 percent of the FHLBank's previous month-end regulatory capital on the day it would purchase the securities. As of December 31, 2019, these investments were 309 percent of the Bank's regulatory capital. These investments exceeded the 300 percent level due to a decrease in regulatory capital that resulted from a decrease in advances. The Bank was in compliance with this regulatory requirement at the time of its MBS purchases and will not be required to sell any previously purchased MBS. However, the Bank was precluded from purchasing additional MBS until its MBS to regulatory capital declines below 300 percent. As of December 31, 2018, the Banks MBS to regulatory capital was 290 percent of regulatory capital.

Refer to Note 6—Available-for-sale Securities and Note 7—Held-to-maturity Securities to the Bank's 2019 audited financial statements for information on securities with unrealized losses as of December 31, 2019 and 2018.

The Bank evaluates its individual investment securities for other-than-temporary impairment on a quarterly basis, as described in Note 8—Other-than-temporary Impairment to the Bank's 2019 audited financial statements.

Mortgage Loans Held for Portfolio

The decrease in mortgage loans held for portfolio from December 31, 2018 to December 31, 2019 was primarily due to the maturity and prepayments of these assets during the year.

Members that sold mortgage loans to the Bank were located primarily in the southeastern United States; therefore the Bank's conventional mortgage loan portfolio was concentrated in that region as of December 31, 2019 and 2018. The following table presents the percentage of unpaid principal balance of conventional residential mortgage loans held for portfolio for the five largest state concentrations.

	As of December 31,	
	2019	2018
	Percent of Total	Percent of Total
Florida	22.36	22.76
South Carolina	20.47	20.40
Virginia	11.61	11.23
Georgia	9.96	10.12
North Carolina	8.13	8.19
All other	27.47	27.30
Total	100.00	100.00

Supplementary financial data on the Bank's mortgage loans is set forth under Item 8, Financial Statements and Supplementary Data—Supplementary Financial Information (Unaudited).

Consolidated Obligations

The Bank funds its assets primarily through the issuance of consolidated obligation bonds and consolidated obligation discount notes. The decrease in consolidated obligations from December 31, 2018 to December 31, 2019 was primarily a result of the decrease in advances outstanding during the year. Consolidated obligation issuances financed 93.9 percent of the $149.9 billion in total assets as of December 31, 2019, remaining relatively stable compared to the financing ratio of 94.0 percent as of December 31, 2018.

Consolidated obligations outstanding were primarily variable rate as of December 31, 2019 and 2018. The Bank often simultaneously entered into derivatives with the issuance of consolidated obligation bonds to convert the interest rates, in effect, into short-term variable interest rates, which were usually based on LIBOR. As of December 31, 2019 and 2018, 83.3 percent and 80.7 percent, respectively, of the Bank's fixed-rate consolidated obligation bonds were swapped. None of the Bank's variable-rate consolidated obligation bonds were swapped as of December 31, 2019 and 2018. As of December 31, 2019, 33.9 percent of the Bank's fixed-rate consolidated obligation discount notes were swapped and none of the Bank's fixed-rate consolidated obligation discount notes were swapped as of December 31, 2018. By March 31, 2020, the Bank will cease entering into LIBOR-based derivatives with termination dates beyond December 31, 2021.

Supplementary financial data on the Bank's short-term borrowings is set forth under Item 8, Financial Statements and Supplementary Data—Supplementary Financial Information (Unaudited).

Deposits

The Bank offers demand and overnight deposit programs to members and qualifying non-members primarily as a liquidity management service. In addition, a member that services mortgage loans may deposit funds in the Bank that are collected in connection with the mortgage loans, pending disbursement of those funds to the owners of the mortgage loans. For demand deposits, the Bank pays interest at the overnight rate. Most of these deposits represent member liquidity investments, which members may withdraw on demand. Therefore, the total account balance of the Bank's deposits may fluctuate significantly. As a matter of prudence, the Bank typically invests deposit funds in liquid short-term assets. Member loan demand, deposit flows, and liquidity management strategies influence the amount and volatility of deposit balances carried with the Bank.

Capital

The FHLBank Act and Finance Agency regulations specify that each FHLBank must meet certain minimum regulatory capital standards. The Bank must maintain (1) total regulatory capital in an amount equal to at least four percent of its total assets; (2) leverage capital in an amount equal to at least five percent of its total assets; and (3) permanent capital in an amount equal to at least its regulatory risk-based capital requirement. Permanent capital is defined by the FHLBank Act and applicable regulations as the sum of paid-in capital for Class B stock and retained earnings. Mandatorily redeemable capital stock is considered capital for regulatory purposes. These regulatory capital requirements, and the Bank's compliance with these requirements, are presented in detail in Note 14—Capital and Mandatorily Redeemable Capital Stock to the Bank's 2019 audited financial statements.

Finance Agency regulations establish criteria for four capital classifications, based on the amount and type of capital held by an FHLBank, as follows:

- Adequately Capitalized - FHLBank meets or exceeds both risk-based and minimum capital requirements;
- Undercapitalized - FHLBank does not meet one or both of its risk-based or minimum capital requirements;
- Significantly Undercapitalized - FHLBank has less than 75 percent of one or both of its risk-based or minimum capital requirements; and
- Critically Undercapitalized - FHLBank total capital is two percent or less of total assets.

Under the regulations, the Director of the Finance Agency (Director) will make a capital classification for each FHLBank at least quarterly and notify the FHLBank in writing of any proposed action and provide an opportunity for the FHLBank to submit information relevant to such action. The Director is permitted to make discretionary classifications. An FHLBank must provide written notice to the Finance Agency within 10 days of any event or development that has caused or is likely to cause its permanent or total capital to fall below the level required to maintain its most recent capital classification or reclassification. In the event that an FHLBank is not adequately capitalized, the regulations delineate the types of prompt corrective actions that the Director may order, including submission of a capital restoration plan by the FHLBank and restrictions on its dividends, stock redemptions, executive compensation, new business activities, or any other actions the Director determines will ensure safe and sound operations and capital compliance by the FHLBank. On December 13, 2019, the Bank received notification from the Director that, based on September 30, 2019 data, the Bank meets the definition of "adequately capitalized."

All of the FHLBanks entered into a Capital Agreement, which is intended to enhance the capital position of each FHLBank. Under the Capital Agreement, each FHLBank allocates 20 percent of its net income each quarter to a separate restricted retained earnings account until the account balance equals at least one percent of the FHLBank's average balance of outstanding consolidated obligations for the previous quarter. Restricted retained earnings are not available to pay dividends and are presented separately on the Statements of Condition.

Finance Agency regulations require the Bank to perform annual stress tests under various scenarios and publicly disclose a summary of the stress test results for the severely adverse scenario. The Bank filed the results of its stress test with the Finance Agency on August 27, 2019, and publicly disclosed a summary of the adverse scenario results on November 15, 2019.

Under the Bank's financial management policy, the Bank targets to maintain (1) a capital-to-assets ratio of 4.50 percent to 5.00 percent; (2) a retained earnings account balance equal to the restricted retained earnings account balance, plus extremely stressed scenario losses; and (3) unrestricted retained earnings greater than the retained earnings target. The Bank believes that daily excess stock repurchases and consistent dividends give members greater certainty of a return of their principal or the receipt of a dividend, which in turn may have a positive impact on members' appetite for advances. The Bank seeks to pay an amount of dividends each quarter that are consistent with an attractive rate of return on capital to its member shareholders relative to an established benchmark, LIBOR, after providing for retained earnings as discussed above. Historically, the Bank's dividend rate has increased with increases in LIBOR, while the spread between the dividend rate and LIBOR may shrink. Conversely, the dividend rate may decrease during periods of lower LIBOR, while the spread may increase. The Bank's ability to maintain dividends consistent with its recent trend depends on LIBOR remaining relatively stable, the Bank's actual financial performance, its ability to maintain adequate retained earnings, other factors described in Item 1A, Risk Factors, and the discretion of the Bank's board of directors. Information about dividends paid by the Bank during 2019, 2018, and 2017, is contained in Note 14—Capital and Mandatorily Redeemable Capital Stock to the Bank's 2019 audited financial statements.

Results of Operations

The following is a discussion and analysis of the Bank's results of operations for the years ended December 31, 2019, 2018, and 2017.

Net Income

The following table presents the Bank's significant income items for the years ended December 31, 2019, 2018, and 2017, and provides information regarding the changes during those years (dollars in millions). These items are discussed in more detail below.

	For the Years Ended December 31,			Increase (Decrease)			
				2019 vs. 2018		2018 vs. 2017	
	2019	2018	2017	Amount	Percent	Amount	Percent
Net interest income	$ 535	$ 561	$ 157	$ (26)	(4.79)	$ 404	257.96
Noninterest income	19	51	367	(32)	(63.17)	(316)	(86.04)
Noninterest expense	146	150	136	(4)	(2.58)	14	10.02
Affordable Housing Program assessment	41	46	39	(5)	(11.94)	7	19.46
Net income	$ 367	$ 416	$ 349	$ (49)	(11.94)	$ 67	19.46

Net Interest Income

The primary source of the Bank's earnings is net interest income. Net interest income equals interest earned on assets (including member advances, mortgage loans, MBS held in portfolio, and other investments), less the interest expense incurred on liabilities (including consolidated obligations, deposits, and other borrowings). Also included in net interest income are miscellaneous related items such as prepayment fees, the amortization of debt issuance discounts, concession fees, and certain derivative instruments and hedging activities related adjustments. The Bank also recognizes significant improvements in expected cash flows related to other-than-temporary impairment securities through net interest income as an adjustment to the yield on the investment securities.

As discussed above, net interest income includes components of hedging activity. When hedging relationships qualify for hedge accounting, the interest components of the hedging derivatives will be reflected in interest income or expense. Beginning on January 1, 2019, the fair value gains and losses of derivatives and hedged items designated in fair value hedge relationships are also recognized in interest income or interest expense. Prior to January 1, 2019, the portion of fair value gains and losses of derivatives and hedged items representing hedge ineffectiveness were recorded in noninterest income. When a hedging relationship is discontinued, the cumulative fair value adjustment on the hedged item will be amortized into interest income or expense over the remaining life of the asset or liability. The impact of hedging on net interest income was a decrease of $31 million and $91 million, during the years ended December 31, 2019 and 2018, respectively.

The decrease in net interest income during 2019, compared to 2018, was primarily due to a decrease in outstanding advances during 2019 compared to 2018. Additionally, changes in interest rates and their subsequent impact on the Bank's derivative positions, interest-earning assets, and interest-bearing liabilities contributed to the decrease in net interest income. These changes in interest rates impacted interest expense related to interest-bearing liabilities more that the offsetting interest income related to interest-earning assets.

The increase in net interest income during 2018, compared to 2017, was primarily due to increased prepayments of previously restructured and redesignated advances during 2017. These prepayments resulted in $307 million of accelerated amortization during 2017. This accelerated amortization reduced net interest income and was offset by a corresponding increase in net gains on derivatives and hedging activities, reflected in noninterest income. The 2017 prepayments of previously restructured and redesignated advances primarily relate to a single member institution. The remaining change in net interest income was primarily due to an increase in interest rates, which impacted interest-earning assets more than the offsetting increase in consolidated obligation expense.

The following table presents key components of net interest income for the years presented (in millions):

	For the Years Ended December 31,		
	2019	2018	2017
Interest income:			
Advances	$ 2,451	$ 2,227	$ 817
Investments	1,271	1,075	677
Mortgage loans	18	21	25
Total interest income	3,740	3,323	1,519
Interest expense:			
Consolidated obligations	3,179	2,743	1,351
Interest-bearing deposits	26	19	11
Total interest expense	3,205	2,762	1,362
Net interest income	$ 535	$ 561	$ 157

The following table presents spreads between the average yield on total interest-earning assets and the average cost of interest-bearing liabilities for the years ended December 31, 2019, 2018, and 2017 (dollars in millions). The interest-rate spread is affected by the inclusion or exclusion of net interest income or expense associated with the Bank's derivatives. If the derivatives do not qualify for fair-value hedge accounting under GAAP, the interest income or expense associated with the derivatives is excluded from net interest income and from the calculation of interest-rate spread and is recorded in Noninterest income (loss) as "Net (losses) gains on derivatives and hedging activities." Amortization associated with some hedging-related basis adjustments is also reflected in net interest income, which affects interest-rate spread.

The Bank's interest-rate spread was 25 basis points, 28 basis points, and seven basis points for 2019, 2018, and 2017, respectively. The decrease in interest-rate spread during 2019, compared to 2018, was primarily due to changes in interest rates that impacted interest expense related to interest-bearing liabilities more than the offsetting interest income related to interest-earning assets. Decreased advances balances in 2019, compared to 2018, also contributed to the decrease. The increase in interest-rate spread during 2018, compared to 2017, was primarily due to the increased prepayments of previously restructured and redesignated advances during 2017 as previously discussed, which decreased net interest income during 2017.

	For the Years Ended December 31,								
	2019 [1]			2018 [1]			2017 [1]		
	Average Balance	Interest	Yield/ Rate (%)	Average Balance	Interest	Yield/ Rate (%)	Average Balance	Interest	Yield/ Rate (%)
Assets									
Interest-bearing deposits [2]	$ 4,101	$ 93	2.27	$ 4,856	$ 101	2.08	$ 1,751	$ 29	1.68
Securities purchased under agreements to resell	5,528	118	2.13	2,410	46	1.92	1,023	10	1.01
Federal funds sold	12,623	279	2.21	11,818	223	1.89	12,016	128	1.06
Investment securities [3]	26,521	781	2.95	26,067	705	2.71	25,671	510	1.99
Advances	98,428	2,451	2.49	105,674	2,227	2.11	97,988	817	0.83
Mortgage loans [4]	329	18	5.46	396	21	5.28	486	25	5.20
Loans to other FHLBanks	12	—	2.54	3	—	1.59	5	—	0.76
Total interest-earning assets	147,542	3,740	2.53	151,224	3,323	2.20	138,940	1,519	1.09
Allowance for credit losses on mortgage loans	(1)			(1)			(1)		
Other assets	1,153			1,131			1,999		
Total assets	$ 148,694			$ 152,354			$ 140,938		
Liabilities and Capital									
Interest-bearing deposits [5]	$ 1,307	26	2.03	$ 1,067	19	1.74	$ 1,173	11	0.92
Consolidated obligations, net:									
Discount notes	59,736	1,371	2.29	60,847	1,139	1.87	48,676	436	0.90
Bonds	79,635	1,808	2.27	82,175	1,604	1.95	83,198	915	1.10
Other borrowings	8	—	3.51	4	—	4.29	4	—	3.54
Total interest-bearing liabilities	140,686	3,205	2.28	144,093	2,762	1.92	133,051	1,362	1.02
Other liabilities	799			746			882		
Total capital	7,209			7,515			7,005		
Total liabilities and capital	$ 148,694			$ 152,354			$ 140,938		
Net interest income and net yield on interest-earning assets		$ 535	0.36		$ 561	0.37		$ 157	0.11
Interest-rate spread			0.25			0.28			0.07
Average interest-earning assets to interest-bearing liabilities			104.87			104.95			104.43

(1) For 2019, interest amounts reported for advances and consolidated obligation bonds and discount notes include realized and unrealized gains (losses) on hedged items and derivatives in qualifying hedge relationships. Prior period interest amounts do not conform to new hedge accounting guidance adopted January 1, 2019.
(2) Includes amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.
(3) Includes trading securities at fair value and available-for-sale securities at amortized cost.
(4) Nonperforming mortgage loans are included in average balances used to determine average rate.
(5) Includes amounts recognized for the right to return cash collateral received under master netting agreements with derivative counterparties.

Net interest income for the years presented was affected by changes in average balances (volume change) and changes in average rates (rate change) of interest-earning assets and interest-bearing liabilities. The following table presents the extent to which volume changes and rate changes affected the Bank's interest income and interest expense (in millions). As presented in the table below, the overall change in net interest income during 2019, compared to 2018, was primarily volume related.

	2019 vs. 2018			2018 vs. 2017		
	Volume [1]	Rate [1]	Increase (Decrease)	Volume [1]	Rate [1]	Increase (Decrease)
Increase (decrease) in interest income:						
Interest-bearing deposits	$ (17)	$ 9	$ (8)	$ 63	$ 9	$ 72
Securities purchased under agreements to resell	66	6	72	22	14	36
Federal funds sold	16	40	56	(2)	97	95
Investment securities	13	63	76	8	187	195
Advances	(160)	384	224	69	1,341	1,410
Mortgage loans	(4)	1	(3)	(5)	1	(4)
Total	(86)	503	417	155	1,649	1,804
Increase (decrease) in interest expense:						
Interest-bearing deposits	4	3	7	(1)	9	8
Consolidated obligations, net:						
Discount notes	(21)	253	232	131	572	703
Bonds	(51)	255	204	(11)	700	689
Total	(68)	511	443	119	1,281	1,400
(Decrease) increase in net interest income	$ (18)	$ (8)	$ (26)	$ 36	$ 368	$ 404

[1] Volume change is calculated as the change in volume multiplied by the previous rate, while rate change is calculated as the change in rate multiplied by the previous volume. The rate/volume change, calculated as the change in rate multiplied by the change in volume, is allocated between volume change and rate change at the ratio each component bears to the absolute value of its total.

Noninterest Income (Loss)

The following table presents the components of noninterest income (loss) (dollars in millions):

	For the Years Ended December 31,			Increase (Decrease)			
				2019 vs. 2018		2018 vs. 2017	
	2019[1]	2018[1]	2017[1]	Amount	Percent	Amount	Percent
Net impairment losses recognized in earnings	$ (13)	$ (3)	$ (2)	$ (10)	(291.12)	$ (1)	(61.92)
Net gains (losses) on trading securities	3	(1)	(5)	4	402.12	4	80.45
Net (losses) gains on derivatives and hedging activities	(4)	29	341	(33)	(114.53)	(312)	(91.55)
Standby letters of credit fees	24	25	26	(1)	(4.66)	(1)	(4.35)
Other	9	1	7	8	498.69	(6)	(77.47)
Total noninterest income	$ 19	$ 51	$ 367	$ (32)	(63.17)	$ (316)	(86.04)

[1] For 2019, amounts reported exclude realized and unrealized gains (losses) on hedged items and derivatives in qualifying hedge relationships. Prior period amounts do not conform to new hedge accounting guidance adopted January 1, 2019.

Beginning on January 1, 2019, changes in fair value of the derivative hedging instrument and the hedged item attributable to the hedged risk for designated fair value hedges are recorded in net interest income in the same line as the earnings effect of the hedged item. Prior to January 1, 2019, for fair value hedges, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedge item) was recorded in noninterest income as net (losses) gains on derivatives and hedging activities.

The decrease in total noninterest income during 2018, compared to 2017, was primarily due to increased prepayments of restructured and redesignated advances during 2017, which resulted in $307 million of accelerated amortization during 2017. This accelerated amortization reduced net interest income during 2017 and was offset by a corresponding increase in net gains on derivatives and hedging activities. The remaining changes in derivatives and hedging activities were primarily related to changes in interest rates.

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The following tables present the net effect of derivatives and hedging activity on the Bank's results of operations (in millions):

	For the Year Ended December 31, 2019 [1]				
	Advances	Investments	Consolidated Obligation Bonds	Balance Sheet	Total
Net interest income:					
Amortization or accretion of active hedging relationships	$ (28)	$ —	$ —	$ —	$ (28)
Net changes in fair value hedges	11	—	(2)	—	9
Net interest settlements on derivatives [2]	21	—	(32)	—	(11)
Other [3]	—	—	(1)	—	(1)
Total effect on net interest income	$ 4	$ —	$ (35)	$ —	$ (31)
Net losses on derivatives:					
Losses on derivatives not receiving hedge accounting including net interest settlements	$ —	$ (3)	$ —	$ (1)	$ (4)
Total net losses on derivatives	—	(3)	—	(1)	(4)
Net gains on trading securities [3]	—	3	—	—	3
Total effect on noninterest income	$ —	$ —	$ —	$ (1)	$ (1)

[1] For 2019, amounts reported include realized and unrealized gains (losses) on hedged items and derivatives in qualifying hedge relationships as part of net interest income.
[2] Represents interest income or expense on derivatives included in net interest income.
[3] Includes only those gains or losses on trading securities or financial instruments held at fair value that have an economic derivative "assigned;" therefore, this line item may not agree to the income statement.

	For the Year Ended December 31, 2018 [1]						
	Advances	Investments	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes	Balance Sheet	Other[5]	Total
Net interest income:							
Amortization or accretion of hedging activities [2]	$ (28)	$ —	$ (1)	$ —	$ —	$ —	$ (29)
Net interest settlements [3]	(20)	—	(40)	(2)	—	—	(62)
Total effect on net interest income	$ (48)	$ —	$ (41)	$ (2)	$ —	$ —	$ (91)
Net gains on derivatives and hedging activities:							
Gains (losses) on fair value hedges	$ 32	$ —	$ 1	$ (1)	$ —	$ —	$ 32
(Losses) gains on derivatives not receiving hedge accounting including net interest settlements	(1)	1	—	—	1	—	1
Price alignment amount on derivatives	—	—	—	—	—	(4)	(4)
Total net gains (losses) on derivatives and hedging activities	31	1	1	(1)	1	(4)	29
Net losses on trading securities [4]	—	(1)	—	—	—	—	(1)
Total effect on noninterest income	$ 31	$ —	$ 1	$ (1)	$ 1	$ (4)	$ 28

[1] For 2019, amounts reported include realized and unrealized gains (losses) on hedged items and derivatives in qualifying hedge relationships as part of net interest income. Prior period amounts do not conform to new hedge accounting guidance adopted January 1, 2019.
[2] Represents the amortization or accretion of hedging fair value adjustments for both open and closed hedge positions.
[3] Represents interest income or expense on derivatives included in net interest income.
[4] Includes only those gains or losses on trading securities or financial instruments held at fair value that have an economic derivative "assigned;" therefore, this line item may not agree to the income statement.
[5] Amount in "Other" includes the price alignment amount on derivatives for which variation margin is characterized as daily settled contract.

	For the Year Ended December 31, 2017 [1]						
	Advances	Investments	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes	Balance Sheet	Other[5]	Total
Net interest income:							
Amortization or accretion of hedging activities [2]	$ (356)	$ —	$ 2	$ —	$ —	$ —	$ (354)
Net interest settlements [3]	(254)	—	75	(3)	—	—	(182)
Total effect on net interest income	$ (610)	$ —	$ 77	$ (3)	$ —	$ —	$ (536)
Net gains on derivatives and hedging activities:							
Gains on fair value hedges	$ 340	$ —	$ 2	$ 1	$ —	$ —	$ 343
Losses on derivatives not receiving hedge accounting including net interest settlements	—	—	—	—	(3)	—	(3)
Price alignment amount on derivatives	—	—	—	—	—	1	1
Total net gains (losses) on derivatives and hedging activities	340	—	2	1	(3)	1	341
Net losses on trading securities [4]	—	(6)	—	—	—	—	(6)
Total effect on noninterest income	$ 340	$ (6)	$ 2	$ 1	$ (3)	$ 1	$ 335

(1) For 2019, amounts reported include realized and unrealized gains (losses) on hedged items and derivatives in qualifying hedge relationships as part of net interest income. Prior period amounts do not conform to new hedge accounting guidance adopted January 1, 2019.
(2) Represents the amortization or accretion of hedging fair value adjustments for both open and closed hedge positions.
(3) Represents interest income or expense on derivatives included in net interest income.
(4) Includes only those gains or losses on trading securities or financial instruments held at fair value that have an economic derivative “assigned;” therefore, this line item may not agree to the income statement.
(5) Amount in “Other” includes the price alignment amount on derivatives for which variation margin is characterized as daily settled contract.

Noninterest Expense and AHP Assessment

	For the Years Ended December 31,			Increase (Decrease)	
	2019	2018	2017	2019 vs. 2018	2018 vs. 2017
Noninterest expense:					
Compensation and benefits	$ 77	$ 93	$ 78	$ (16)	$ 15
Cost of quarters	4	5	5	(1)	—
Other operating expenses	35	33	31	2	2
Total operating expenses	116	131	114	(15)	17
Finance Agency and Office of Finance	18	15	15	3	—
Other	12	4	7	8	(3)
Total noninterest expense	146	150	136	(4)	14
Affordable Housing Program assessment	41	46	39	(5)	7
Total noninterest expense and AHP assessment	$ 187	$ 196	$ 175	$ (9)	$ 21

During 2018, the Bank recorded in compensation and benefits an additional $13 million retirement plan accrual, which is the primary reason for the increase in total noninterest expense during 2018, compared to 2019.

The Bank records AHP assessment expense at a rate of 10 percent of income before assessment, excluding interest expense on mandatorily redeemable capital stock.

Liquidity and Capital Resources

Liquidity is necessary to satisfy members' borrowing needs on a timely basis, repay maturing and called consolidated obligations, and meet other obligations and operating requirements. Many members rely on the Bank as a source of standby liquidity, so the Bank attempts to be in a position to meet member funding needs on a timely basis. The Bank is required to maintain liquidity in accordance with the FHLBank Act, Finance Agency regulations, and policies established by the Bank's management and board of directors. In addition, the Finance Agency, at times, has issued guidance and expectations to the FHLBanks related to liquidity.

Liquidity Reserves for Deposits. Finance Agency regulations require the Bank to hold a total amount of cash, obligations of the U.S., and advances with maturities of less than five years, in an amount not less than the amount of total member deposits. The Bank has complied with this requirement throughout 2019.

Operational Liquidity. In order to ensure adequate operational liquidity (generally, the ready cash and borrowing capacity available to meet the Bank's intraday needs) each day, Bank policy establishes a daily liquidity target based upon member deposit levels and current day liability maturities and asset settlements. The Bank met this liquidity requirement throughout 2019.

Contingent Liquidity. Finance Agency regulations require the Bank to maintain contingent liquidity in an amount sufficient to meet its liquidity needs for five business days if it is unable to access the capital markets. The Bank met these regulatory liquidity requirements throughout 2019.

Additional Liquidity Guidance. On August 23, 2018, the Finance Agency issued a final Advisory Bulletin on FHLBank liquidity (Liquidity Guidance AB) that communicates the Finance Agency's expectations with respect to the maintenance of sufficient liquidity to enable the Bank to provide advances and standby letters of credit for members during a sustained capital market disruption, assuming no access to capital markets and assuming renewal of all maturing advances for a period of between ten to thirty calendar days. Contemporaneously with the issuance of the Liquidity Guidance AB, the Finance Agency issued a supervisory letter that identifies initial thresholds for measures of liquidity within the established ranges set forth in the Liquidity Guidance AB.

The Liquidity Guidance AB's measurements of liquidity include a cash flow scenario, on a daily basis, that projects forward the number of days for which the Bank should maintain positive cash balances assuming the renewal of all maturing advances and the maintenance of a liquidity reserve for outstanding standby letters of credit. The measurements of liquidity also include a funding gap measurement of the difference between assets and liabilities that are scheduled to mature during a specified period, expressed as a percentage of the Bank's total assets to reduce the liquidity risks associated with a mismatch in asset and liability maturities, including an undue reliance on short-term debt funding, which may increase debt rollover risk.

Portions of the Liquidity Guidance AB were implemented on December 31, 2018 and March 31, 2019, with full implementation to take place on December 31, 2019. The Bank has increased the amount of liquid assets it holds to meet the December 31, 2019 implementation date of this guidance.

Sources of Liquidity. The Bank's principal source of liquidity is consolidated obligation debt instruments. To provide additional liquidity, the Bank also may use other short-term borrowings, such as federal funds purchased, securities sold under agreements to repurchase, and loans from other FHLBanks. The Bank's consolidated obligations are not obligations of the United States and are not guaranteed by either the United States or any government agency, but have historically received the same credit rating as the government bond credit rating of the United States. As a result, the Bank generally has comparatively stable access to funding through a diverse investor base at relatively favorable spreads to U.S. Treasury rates. The Bank's income and liquidity would be adversely affected if it were not able to access the capital markets at competitive rates for an extended period.

The Bank maintained continual access to funding and adapted its debt issuance to meet the needs of its members throughout 2019. The Bank's short-term funding was generally driven by member demand and was achieved through the issuance of consolidated discount notes and short-term consolidated bonds throughout 2019. Access to short-term debt markets has been reliable because investors, driven by increased liquidity preferences and risk aversion, including the effects of money market fund reform, have sought the Bank's short-term debt as an asset of choice, which has led to advantageous funding opportunities and increased utilization of debt maturing in one year or less.

The Bank is focused on maintaining an adequate liquidity balance and a funding balance between its financial assets and financial liabilities and the FHLBanks work collectively to manage the system-wide liquidity and funding needs. Management and the FHLBanks jointly monitor the combined refinancing risk primarily by tracking the maturities of financial assets and financial liabilities. The Bank monitors the funding balance between financial assets and financial liabilities and is committed to prudent risk management practices. In managing and monitoring the amounts of assets that require refunding, the Bank considers contractual maturities of its financial assets, as well as certain assumptions regarding expected cash flows (i.e. estimated prepayments and scheduled amortizations). External factors including Bank member borrowing needs, supply and demand in the debt markets, and other factors may also affect the liquidity balances and the funding balance between financial assets and financial liabilities. See the notes to the Bank's 2019 audited financial statements for more information regarding contractual maturities of certain of the Bank's financial assets and liabilities.

Contingency plans are in place that prioritize the allocation of liquidity resources in the event of operational disruptions at the Bank or the Office of Finance. Under the FHLBank Act, the Secretary of Treasury has the authority, at his discretion, to purchase consolidated obligations up to an aggregate amount of $4.0 billion. No borrowings under this authority have been outstanding since 1977.

Off-balance Sheet Commitments

The Bank's primary off-balance sheet commitments are as follows:

- the Bank's joint and several liability for all FHLBank consolidated obligations; and
- the Bank's outstanding commitments arising from standby letters of credit.

Should an FHLBank be unable to satisfy its payment obligation under a consolidated obligation for which it is the primary obligor, any of the other FHLBanks, including the Bank, could be called upon to repay all or any part of such payment obligation, as determined or approved by the Finance Agency. As of December 31, 2019, none of the other FHLBanks defaulted on their consolidated obligations; the Finance Agency was not required to allocate any obligation among the FHLBanks; and no amount of the joint and several obligation was fixed. Accordingly, the Bank has not recognized a liability for its joint and several obligations related to other FHLBanks' consolidated obligations as of December 31, 2019 and 2018. As of December 31, 2019, the FHLBanks had $1.0 trillion in aggregate par value of consolidated obligations issued and outstanding, $140.8 billion of which was attributable to the Bank. No FHLBank has ever defaulted on its principal or interest payments under any consolidated obligation, and the Bank has never been required to make payments under any consolidated obligation as a result of the failure of another FHLBank to meet its obligations.

The Bank generally requires standby letters of credit to contain language permitting the Bank, upon annual renewal dates and prior notice to the beneficiary, to choose not to renew the standby letter of credit, which effectively terminates the standby letter of credit prior to its scheduled final expiration date. Based on the creditworthiness of the member applicant and appropriate additional fees, the Bank may issue standby letters of credit that have terms of longer than one year without annual renewals or that have no stated maturity and are subject to renewal on an annual basis.

Commitments to extend credit, including standby letters of credit, are agreements to lend. The Bank issues a standby letter of credit on behalf of a member in exchange for a fee. A member may use these standby letters of credit to facilitate a financing arrangement. Management regularly reviews its standby letter of credit pricing in light of several factors, including the Bank's potential liquidity needs related to draws on its standby letters of credit. Based on management's credit analyses and collateral requirements, the Bank does not deem it necessary to have an allowance for credit losses for these unfunded standby letters of credit as of December 31, 2019.

Refer to Note 19—Commitments and Contingencies to the Bank's 2019 audited financial statements for more information about the Bank's outstanding standby letters of credit.

Contractual Obligations

The following table presents the payment due dates or expiration terms of the Bank's long-term contractual obligations and commitments as of December 31, 2019 (in millions).

	One year or less	After one year through three years	After three years through five years	After five years	Total
Consolidated obligations bonds[1]	$ 79,699	$ 5,243	$ 2,181	$ 1,360	$ 88,483
Pension and post-retirement contributions[2]	16	4	38	14	72
Operating leases	1	—	—	—	1
Mandatorily redeemable capital stock	—	—	1	—	1
Total	$ 79,716	$ 5,247	$ 2,220	$ 1,374	$ 88,557

(1) Does not include discount notes and contractual interest payments related to bonds. Total is based on contractual maturities; the actual timing of payments could be impacted by factors affecting redemption.

(2) Includes future funding contribution for the qualified pension plan and scheduled benefit payments for the nonqualified defined benefit plans.

Refer to the respective footnotes in Item 8, Financial Statements and Supplementary Data for more information on each of the contractual obligations and commitments listed in the above table.

Critical Accounting Policies and Estimates

The preparation of the Bank's financial statements in accordance with GAAP requires management to make a number of judgments and assumptions that affect the Bank's reported results and disclosures. Several of the Bank's accounting policies are inherently subject to valuation assumptions and other subjective assessments and are more critical than others to the Bank's results. The Bank considers fair value measurements and derivatives and hedging activities to be critical accounting policies because they require management's subjective and complex judgments about matters that are inherently uncertain. Management bases its judgments and estimates on current market conditions and industry practices, historical experience, changes in the business environment and other factors that it believes to be reasonable under the circumstances. Actual results could differ materially from these estimates under different assumptions and/or conditions.

Fair Value Measurements

The Bank carries certain assets and liabilities, including investments classified as trading and available-for-sale and all derivatives, on the balance sheet at fair value. 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, representing an exit price.

Fair values play an important role in the valuation of certain assets, liabilities, and hedging transactions of the Bank. Fair values are based on quoted market prices or market-based prices, if such prices are available, even in situations in which trading volume may be low when compared with prior periods. If quoted market prices or market-based prices are not available, the Bank determines fair values based on valuation models that use discounted cash flows, using market estimates of interest rates and volatility.

Valuation models and their underlying assumptions are based on the best estimates of the Bank's management with respect to:

- market indices (primarily LIBOR and the OIS curve);

- discount rates;
- prepayments;
- market volatility; and
- other factors, including default and loss rates.

These assumptions, particularly estimates of market indices and discount rates, may have a significant effect on the reported fair values of assets and liabilities, including derivatives, and the income and expense related thereto. The use of different assumptions, as well as changes in market conditions, could result in a materially different net income and retained earnings. The assumptions used in the models are corroborated by and independently verified against market observable data where possible.

The Bank categorizes its financial instruments carried at fair value into a three-level classification in accordance with GAAP. The valuation hierarchy is based upon the transparency (observable or unobservable) of inputs to the valuation of an asset or liability as of the measurement date. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Bank's market assumptions. The Bank utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs.

Refer to Note 18—Estimated Fair Values to the Bank's 2019 audited financial statements for further discussion regarding how the Bank measures financial assets and financial liabilities at fair value.

Derivatives and Hedging Activities

General

The Bank records all derivatives at fair value on the balance sheet with changes in fair value recognized in current-period earnings. The Bank designates derivatives as either fair-value hedging instruments or non-qualifying hedging instruments for which hedge accounting is not applied. The Bank has not entered into any cash-flow hedges as of December 31, 2019 and 2018. The Bank uses derivatives in its risk management program for the following purposes:

- conversion of a fixed rate to a variable rate;
- conversion of a variable rate with a fixed component to another variable rate; and
- macro hedging of balance sheet risks.

To qualify for hedge accounting, the Bank documents the following concurrently with the execution of each hedging relationship:

- the hedging strategy;
- identification of the hedging instrument and the hedged item;
- determination of the appropriate accounting designation;
- the method used for the determination of effectiveness for transactions qualifying for hedge accounting; and
- the method for recording ineffectiveness for hedging relationships.

The Bank also evaluates each debt issuance, advance made, and financial instrument purchased to determine whether the cash item contains embedded derivatives that meet the criteria for bifurcation. If, after evaluation, it is determined that an embedded derivative must be bifurcated, the Bank will measure the fair value of the embedded derivative.

Assessment of Hedge Effectiveness

An assessment must be made to determine the effectiveness of qualifying hedging relationships. To make such an assessment, the Bank either uses (1) the short-cut method; or (2) the long-haul method.

If the hedging instrument is a swap and meets specific criteria, the hedging relationship may qualify for the short-cut method of assessing effectiveness. The short-cut method allows for an assumption of no ineffectiveness, which means that the change in the fair value of the hedged item is assumed to be equal and offsetting to the change in fair value of the hedging instrument. For periods beginning after May 31, 2005, the Bank determined that it would no longer apply the short-cut method to new hedging relationships.

The long-haul method of effectiveness is used to assess effectiveness for hedging relationships that qualify for hedge accounting but do not meet the criteria for the use of the short-cut method. The long-haul method requires separate valuations of both the hedged item and the hedging instrument. If the hedging relationship is determined to be highly effective, the change in fair value of the hedged item related to the designated risk is recognized in current period earnings in the same period as the change in fair value of the hedging instrument. If the hedging relationship is determined not to be highly effective, hedge accounting will either not be allowed or cease at that point. The Bank performs effectiveness testing on a monthly basis and uses statistical regression analysis techniques to determine whether a long-haul hedging relationship is highly effective.

Accounting for Ineffectiveness and Hedge De-designation

The Bank accounts for any ineffectiveness for all long-haul fair-value hedges using the dollar offset method. In the case of non-qualifying hedges that do not qualify for hedge accounting, the Bank reports only the change in the fair value of the derivative. Both the net interest on the derivative and the fair value adjustments of a non-qualifying hedge are recorded in noninterest income (loss) as “Net (losses) gains on derivatives and hedging activities” on the Statements of Income. Beginning January 1, 2019, the Bank adopted new hedge accounting guidance, which, among other things, impacts the presentation of gains (losses) on derivatives and hedging activities for qualifying hedges. Changes in the fair value of a derivative that are effective as, and that are designated and qualify as, a fair-value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk (including changes that reflect losses or gains on firm commitments), are recorded in net interest income in the same line as the earnings effect of the hedged item. Prior to January 1, 2019, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedged item) was recorded in noninterest income (loss) as “Net (losses) gains on derivatives and hedging activities” on the Statements of Income.

The Bank may discontinue hedge accounting for a hedging transaction (de-designation) if it fails effectiveness testing or for other asset-liability-management reasons. The Bank also treats modifications to hedged items as a discontinuance of a hedging relationship. When a hedging relationship is discontinued, the Bank will cease marking the hedged item to fair value and will amortize the cumulative basis adjustment resulting from hedge accounting. The Bank reports related amortization as interest income or expense over the remaining life of the associated hedged item. The associated derivative will continue to be marked to fair value through earnings until it matures or is terminated.

Recently Issued and Adopted Accounting Guidance

See Note 3—Recently Issued and Adopted Accounting Guidance to the Bank’s 2019 audited financial statements for a discussion of recently issued and adopted accounting guidance.

Legislative and Regulatory Developments

The legislative and regulatory environment in which the Bank and its members operate continues to evolve as a result of regulations enacted pursuant to the Housing Act and the Dodd-Frank Act. The Bank’s business operations, funding costs, rights, obligations, and/or the environment in which the Bank carries out its housing finance and community lending mission are likely to continue to be significantly impacted by these changes. Significant regulatory actions and developments for the period covered by this report are summarized below.

Uncertainty Regarding Brexit. In June 2016, the United Kingdom (the UK) voted in favor of leaving the European Union (the EU), and in March 2017, Article 50 of the Lisbon Treaty was invoked, commencing a period of negotiations between the UK and the European Council for the UK’s withdrawal from the EU, which was subsequently extended by the European Council members in agreement with the UK. On January 31, 2020, the UK withdrew from the EU under the European Union Withdrawal Act 2020, with a transition period to last until December 31, 2020, which period may be extended for an additional two years. During this transition period, the UK and the EU will negotiate the details of their future relationship, including what conditions will apply to EU-based entities that want to do business with the UK, and vice versa, after the transition period.

From time to time the Bank may have exposure to UK-based and EU-based counterparties. At this time it is not possible to predict the date on which the transition period will end or whether any agreement reached between the UK and the EU will have a material adverse effect on the financial instruments governing the contractual terms with these counterparties.

Finance Agency Proposed Amendments to Stress Test Rule. On December 16, 2019, the Finance Agency published a proposed rule amending its stress testing rule, consistent with section 401 of the Economic Growth, Regulatory Relief, and Consumer Protection Act of 2018 (EGRRCPA), (i) to raise the minimum threshold to conduct periodic stress tests for entities regulated by the Finance Agency from those with consolidated assets of more than $10 billion to those with consolidated assets of more than $250 billion, (ii) to remove the requirements for FHLBanks to conduct stress tests; and (iii) remove the adverse scenario from the list of required scenarios. The proposed rule maintains the Finance Agency's discretion to require that an FHLBank with total consolidated assets below the $250 billion threshold conduct stress testing. The proposed amendments align the Finance Agency's stress testing rules with rules adopted by other financial institution regulators that implement the Dodd-Frank Wall Street Reform and Consumer Protection Act stress testing requirements, as amended by the EGRRCPA. The results of the Bank's most recent annual severely adverse economic conditions stress test were published to our public website, www.fhlbatl.com, on November 15, 2019. If the rule is adopted as proposed, it will eliminate these stress testing requirements for FHLBanks, unless the Finance Agency exercises its discretion to require stress testing in the future. The Bank does not expect this rule, if adopted as proposed, to have a material effect on its financial condition or results of operations.

FDIC Brokered Deposits Restrictions. On December 12, 2019, the Federal Deposit Insurance Corporation (FDIC) issued a proposed rule to amend its brokered deposits restrictions that apply to less than well capitalized insured depository institutions. The FDIC states that the proposed amendments are intended to modernize its brokered deposit regulations and would establish a new framework for analyzing whether deposits placed through deposit placement arrangements qualify as brokered deposits. These deposit placement arrangements include those between insured depository institutions and third parties, such as financial technology companies, for a variety of business purposes, including access to deposits. By creating a new framework for analyzing certain provisions of the "deposit broker" definition, including shortening the list of activities considered "facilitating" and expanding the scope of the "primary purpose" exception, the proposed rule would narrow the definition of "deposit broker" and exclude more deposits from treatment as "brokered deposits." The proposed rule would also establish an application and reporting process with respect to the primary purpose exception.

If this rule is adopted as proposed, the Bank does not expect it to materially affect its financial condition or results of operations. However, if adopted as proposed, the rule could affect the demand for certain of the Bank's advance products, but the extent of the impact is uncertain.

Finance Agency Supervisory Letter - Planning for LIBOR Phase-Out. On September 27, 2019, the Finance Agency issued a Supervisory Letter (Supervisory Letter) to the FHLBanks that the Finance Agency stated is designed to ensure the FHLBanks will be able to identify and prudently manage the risks associated with the termination of LIBOR in a safe and sound manner. The Supervisory Letter provides that the FHLBanks should, by March 31, 2020, cease entering into new LIBOR referenced financial assets, liabilities, and derivatives with maturities beyond December 31, 2021 for all product types except investments. With respect to investments, the FHLBanks were required, by December 31, 2019, to stop purchasing investments that reference LIBOR and mature after December 31, 2021. These phase-out dates do not apply to collateral accepted by the FHLBanks. The Supervisory Letter also directs the FHLBanks to update their pledged collateral certification reporting requirements by March 31, 2020 in an effort to encourage members to distinguish LIBOR-linked collateral maturing after December 31, 2021.

As a result of the Supervisory Letter, beginning April 1, 2020, the Bank will no longer enter into certain structured advances and advances with terms directly linked to LIBOR that mature after December 31, 2021. In addition, beginning April 1, 2020, the Bank will no longer enter into consolidated obligation bonds and derivatives with swaps, caps, or floors indexed to LIBOR that terminate after December 31, 2021. The Bank has ceased purchasing investments that reference LIBOR and mature after December 31, 2021.

The Bank continues to evaluate the potential impact of the Supervisory Letter on its financial condition and results of operations, but the Bank has begun to change its investment strategy, may experience lower overall demand or increased costs for its advances, and it may be necessary to change the Bank's hedging strategy, all of which in turn may negatively impact the future composition of the Bank's balance sheet, capital stock levels, core mission asset ratio, net income and dividend.

Finance Agency Advisory Bulletin 2019-03 - Capital Stock Management. On August 14, 2019, the Finance Agency issued an Advisory Bulletin (the Capital Management AB) providing for each FHLBank to maintain a ratio of at least two percent of capital stock to total assets in order to help preserve the cooperative structure incentives that encourage members to remain fully engaged in the oversight of their investment in the Bank. In February 2020, the Finance Agency began to consider the proportion of capital stock to assets, measured on a daily average basis at month end, when assessing each FHLBank's capital management practices.

The Bank does not expect the Capital Management AB to have a material impact on its capital management practices, financial condition, and/or results of operations.

Finance Agency Advisory Bulletin 2019-01 Business Resiliency Management. On May 7, 2019, the Finance Agency issued an Advisory Bulletin on Business Resiliency Management for FHLBanks and other entities regulated by the Finance Agency (the Business Resiliency AB) that communicates the Finance Agency's expectations with respect to minimizing the impact of disruptions in service from uncontrolled events and the maintenance of business operations at predefined levels. The Business Resiliency AB rescinds the Finance Agency's 2002 disaster recovery guidance. The new guidance states that a business resiliency program should guide the regulated entity to respond appropriately to disruptions affecting business operations, personnel, equipment, facilities, IT systems, and information assets. The Business Resiliency AB provides guidance on the elements of a safe and sound business resiliency program, which include governance, risk assessment and business impact analysis, risk mitigation and plan development, testing and analysis, and risk monitoring and program sustainability.

The Bank does not expect the Business Resiliency AB to have a material effect on its financial condition or results of operations.

SEC Final Rule on Auditor Independence with Respect to Certain Loans or Debtor-Creditor Relationships. On July 5, 2019, the SEC published a final rule, which became effective on October 3, 2019 (the SEC Final Rule), that adopts amendments to its auditor independence rules to modify the analysis that must be conducted to determine whether an auditor is independent when the auditor has a lending relationship with certain shareholders of an audit client at any time during an audit or professional engagement period. The SEC Final Rule, among other things, focuses the analysis on beneficial ownership rather than on both record and beneficial ownership; replaces the existing ten percent bright-line shareholder ownership test with a "significant influence" test; and adds a "known through reasonable inquiry" standard with respect to identifying beneficial owners of the audit client's equity securities.

Under the prior loan rule on debtor-creditor relationships, the independence of an accounting firm generally could be called into question if it or a covered person in the accounting firm received a loan from a lender that is a "record or beneficial owner of more than ten percent of the audit client's equity securities." A covered person in the firm includes personnel on the audit engagement team, personnel in the chain of command, partners and managers who provide ten or more hours of non-audit services to the audit client, and partners in the office where the lead engagement partner practices in connection with the client. The SEC Final Rule replaced the existing ten percent bright-line test with a significant influence test similar to that referenced in other SEC rules and based on concepts applied in the Financial Accounting Standards Board Accounting Standards Codification Topic 323.

Under the SEC Final Rule, which is now in effect, with certain exceptions, the receipt of loans from the beneficial owners of an audit client's equity securities where such beneficial owner has significant influence over the audit client would impair the independence of the auditor. The analysis under the Final Rule would be based on the facts and circumstances and would focus on whether the beneficial owners of an audit client's equity securities have the ability to exercise significant influence over the operating and financial policies of an audit client.

The Bank expects the SEC Final Rule to resolve the matters we discussed in Item 9B - Other Information in the 2018 Annual Report on Form 10-K.

In 2019, regulators published certain rules or issued guidance applicable to swaps:

> *Margin and Capital Requirements for Covered Swap Entities.* On November 7, 2019, the Office of the Comptroller of the Currency, the Federal Reserve Board, the Federal Deposit Insurance Corporation, the Farm Credit Administration and the Finance Agency (collectively, the Agencies) jointly published a proposed rule that, in addition to other changes, would amend the Agencies' regulations that established minimum margin and capital requirements for uncleared swaps (the prudential margin rules) for covered swap entities under the jurisdiction of one of the Agencies. In addition to other changes, the proposed amendments would permit those uncleared swaps entered into by a covered swap entity before the compliance date of the prudential margin rules to retain their legacy status and not become subject to the prudential margin rules in the event that such legacy swaps are amended to replace LIBOR or another rate that is reasonably expected to be discontinued or is reasonably determined to have lost its relevance as a reliable benchmark due to a significant impairment. Among other things, the proposed rule would also amend the prudential margin rules to (i) extend the phase-in compliance date of the covered swap entities for initial margin requirements from September 1, 2020 to September 1, 2021 for counterparties with an average daily aggregate notional amount (AANA) of non-cleared swaps from \$8 billion to \$50 billion, (ii) clarify that an Agency covered swap entity does not

have to execute initial margin trading documentation with a counterparty prior to the time that the counterparty is required to collect or post initial margin, and (iii) permit legacy swaps to retain their legacy status and not become subject to the prudential margin rules in the event that they are amended due to certain life-cycle activities, such as reductions of notional amounts or portfolio compression exercises.

On October 24, 2019, the CFTC proposed an amendment to its CFTC margin rules, which among other changes, would similarly extend the phase-in compliance date for initial margin requirements from September 1, 2020 to September 1, 2021 for counterparties with an AANA of non-cleared swaps from $8 billion to $50 billion. The Bank does not expect this rule, if adopted as proposed, to have a material effect on its financial condition or results of operations. The Bank also believes the provisions of the rule related to LIBOR replacement, if adopted as proposed, may assist in the market's and the Bank's transition away from LIBOR.

CFTC No-action Relief for LIBOR Amendments. On December 17, 2019, three divisions of the CFTC issued no-action letters to provide relief with respect to the transition away from LIBOR and other interbank offered rates (IBORs). Among other forms of relief, the letters, subject to certain limitations, (i) permit registered swap dealers, major swap participants, security-based swap participants, and major security-based swap participants (covered swap entities) to amend an uncleared swap entered into before the compliance date of the CFTC's uncleared swap margin requirements (such swap, a legacy swap, and such requirements, the CFTC margin rules) to include LIBOR or other IBOR fallbacks without the legacy swap becoming subject to the CFTC margin rules; and (ii) provide time-limited relief, until December 31, 2021, for (a) swaps that are not subject to the central clearing requirement because they were executed prior to the relevant compliance date and (b) swaps that are subject to the trade execution requirement to be amended to include LIBOR or other IBOR fallbacks without becoming subject to such clearing or trade execution requirements.

The Bank believes this relief may assist in the market's and the Bank's transition away from LIBOR.

CFTC Advisory on Initial Margin Documentation Requirements. On July 9, 2019, the CFTC issued an advisory (the CFTC Advisory) on its Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants (the CFTC Margin Rules), to clarify that documentation governing the posting, collection, and custody of initial margin is not required to be completed until such time as the aggregate unmargined exposure to a counterparty (and its margin affiliates) exceeds an initial margin threshold of $50 million imposed by the regulation. The CFTC Advisory, however, instructs covered swap entities to closely monitor initial margin amounts if they are approaching the $50 million initial margin threshold with a counterparty and to take appropriate steps to ensure that the required documentation is in place at such time as the threshold is reached. The Bank is closely monitoring its initial margin thresholds on a counterparty-by-counterparty basis and is evaluating the impact of the CFTC Advisory on its documentation requirements.

Risk Management

The Bank's lending, investment and funding activities, and use of derivative hedge instruments expose the Bank to a number of risks. A robust risk management framework aligns risk-taking activities with the Bank's strategies and risk appetite. A risk management framework also balances risks and rewards. The Bank's risk management framework consists of risk governance, risk appetite, and risk management policies.

The Bank's board of directors and management recognize that risks are inherent to the Bank's business model and that the process of establishing a risk appetite does not imply that the Bank seeks to mitigate or eliminate all risk. By defining and managing to a specific risk appetite, the board of directors and management ensure that there is a common understanding of the Bank's desired risk profile, which enhances strategic and tactical decisions. Additionally, the Bank aspires to (1) sustain a corporate culture of transparency, integrity, and adherence to legal and ethical obligations; and (2) achieve and exceed best practices in governance, ethics, and compliance.

The Bank's board of directors and management have established a risk appetite statement and risk metrics for controlling and escalating actions based on the following eight continuing objectives that represent the foundation of the Bank's strategic and tactical planning:

- Capital Adequacy - maintain adequate levels of capital components (retained earnings and capital stock) that protect against the risks inherent on the Bank's balance sheet and provide sufficient resiliency to withstand potential stressed losses.

- Market Risk/Earnings - maintain an adequate ROE spread to average three-month LIBOR, while providing attractive funding for advance products, consistent payment of dividends, reliable access to funding, and maintenance of retained earnings in excess of stressed retained earnings targets within a conservative risk management framework.

- Liquidity Risk - maintain sufficient liquidity and funding sources to allow the Bank to meet expected and unexpected obligations.

- Credit and Concentration Risk - avoid credit losses by managing credit and collateral risk exposures within acceptable parameters. Achieve this objective through data-driven analysis (and when appropriate, perform shareholder-specific analysis), monitoring, and verification, including new collateral policy expansions to ensure appropriate controls and that monitoring is consistent with managing existing credit and collateral risk exposures. Monitor through enhanced reporting any elevated risk concentrations, and when appropriate, manage and mitigate the increased risk.

- Governance/Compliance/Legal - compliance with all applicable laws and regulations and manage other legal exposures.

- Mission/Business Model - (1) deliver financial services and consistent access to affordable funds that are the size and structure shareholders desire, helping them to manage risk and extend credit in their communities, while achieving the Bank's affordable housing mission goals; and (2) provide value through the consistent payment of dividends and the repurchasing of excess stock.

- Operational Risk - (1) manage the key risks associated with operational availability of critical systems and services, the integrity and security of the Bank's information, and the alignment of technology investment with key business objectives through enterprise-wide risk management practices and governance based on industry standards; (2) deliver an employee value proposition that allows the Bank to build, retain, engage, and develop staff to meet the evolving needs of the Bank's key stakeholders and effectively manage enterprise-wide risks; and (3) manage the key risks associated with cyber security threats.

- Reputation - recognize the importance of and advance positive awareness and perception of the Bank and its mission among key external stakeholders impacting the Bank's ability to achieve its mission.

The board and management recognize that risk and risk producing events are dynamic and constantly being presented. Accordingly, the Bank believes that reporting, analyzing, and mitigating risks are paramount to successful corporate governance.

The RMP also governs the Bank's approach to managing the above risks. The Bank's board of directors reviews the RMP annually and approves amendments to the RMP from time to time as necessary. To promote compliance with the RMP, the Bank has established internal management committees to provide oversight of these risks. The Bank produces a comprehensive risk assessment report on an annual basis that is reviewed by the board of directors. In addition to the established risk appetite and the RMP, the Bank is also subject to Finance Agency regulations and policies regarding risk management.

Transition of LIBOR to an Alternative Reference Rate

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced that after 2021 it will no longer persuade or compel banks to submit rates for the calculation of LIBOR. In response, the Federal Reserve Board and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee to identify a set of alternative reference interest rates for possible use as market benchmarks. This committee has proposed SOFR as its recommended alternative to U.S. dollar LIBOR, and the Federal Reserve Bank of New York began publishing SOFR rates in the second quarter of 2018. SOFR is based on a broad segment of the overnight Treasury repurchase market and is intended to be a measure of the cost of borrowing cash overnight collateralized by Treasury securities.

Certain of the Bank's assets and liabilities, and certain collateral pledged to the Bank, are indexed to LIBOR, with exposure extending past December 31, 2021. The Bank is currently evaluating and planning for the eventual replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as the dominant replacement. In general, the transition away from LIBOR may result in increased market risk, credit risk, operational risk and business risk for the Bank. The Bank has adopted a LIBOR transition plan, which outlines the Bank's transition activities, including LIBOR exposure evaluation, risk management, legal, operational, systems and operations, shareholder and external communication and education, and other aspects of planning. The Bank has a LIBOR Steering Committee, which oversees the Bank's transition away from LIBOR in accordance with the strategies and requirements put forth by senior management and regulatory guidance, providing periodic reports to the Bank's executive management committee and board of directors.

As of December 31, 2019, the Bank ceased purchasing assets tied to LIBOR with a contractual maturity beyond December 31, 2021. In light of this change, the Bank is evaluating its investment and related hedging strategy, including the availability of alternate permissible investments. In addition, beginning March 31, 2020, the Bank will cease entering into new LIBOR-based transactions involving advances, debt, derivatives, or other products with maturities beyond December 31, 2021. In preparation for this change and to help manage balance sheet exposure to LIBOR-indexed assets and liabilities with maturities beyond 2021, the Bank has begun updating its systems, participating in the issuance of SOFR-indexed consolidated bonds, issuing SOFR-linked advances, and swapping certain financial instruments to OIS and SOFR as an alternative interest rate hedging strategy for certain financial instruments. The pace of transition, however, is dependent on external factors, including market developments and demand. The Bank closely monitors and participates in industry activity related to LIBOR transition, including those of the Alternate Reference Rate Committee and the International Swaps and Derivatives Association. The Bank will update its pledged collateral certification reporting requirements as of March 31, 2020 so that members may distinguish LIBOR-linked collateral maturing past December 31, 2021. The Bank intends to utilize this information in connection with its LIBOR exposure evaluation and risk management.

As part of the Bank's risk LIBOR exposure evaluation and risk management, the Bank is developing an inventory of financial instruments impacted by the LIBOR transition and working to identify contracts that may require adding or adjusting the fallback language. The Bank has added or adjusted fallback language in advance confirmations, consolidated obligations and its credit and collateral policy to include fallback language addressing the discontinuation of LIBOR as a benchmark rate. The Bank continues to monitor the market-wide efforts to address fallback language related to derivatives and cash products.

The Bank's exposure to advances, investment securities, and consolidated obligation bonds with interest rates indexed to LIBOR as of December 31, 2019 is set forth below (in millions).

	As of December 31, 2019		
	Par Value		
	Advances [1]	**Investments Securities**	**Consolidated Obligation Bonds**
Variable-rate financial instruments outstanding			
LIBOR	$ 27,162	$ 22,863	$ 42,820
SOFR	500	50	14,118
Other	7,278	1,668	—
Total variable-rate financial instruments outstanding	$ 34,940	$ 24,581	$ 56,938
LIBOR-indexed financial instruments by contractual maturity			
Due before or on December 31, 2021	$ 24,828	$ 1,332	$ 42,820
Due after December 31, 2021	2,334	21,531	—
Total LIBOR-indexed financial instruments by contractual maturity	$ 27,162	$ 22,863	$ 42,820

(1) Includes all fixed-rate advances that have cap/floor optionality and excludes convertible advances.

The Bank's exposure to derivatives with interest rates indexed to LIBOR as of December 31, 2019 is set forth below (in millions).

	As of December 31, 2019			
	Notional Amount			
	Pay Leg		Receive Leg	
	Cleared	**Uncleared**	**Cleared**	**Uncleared**
Terminates before or on December 31, 2021	$ 12,973	$ 11,578	$ 9,968	$ 265
Terminates after December 31, 2021	263	1,980	11,408	4,901
Total LIBOR-indexed Derivatives by termination date	$ 13,236	$ 13,558	$ 21,376	$ 5,166

Below is a more specific discussion of how the Bank manages its market risk, liquidity risk, credit risk, operational risk, and business risk within this risk management and appetite framework.

Market Risk

General

The Bank is exposed to market risk because changes in interest rates and spreads can have a direct effect on the value of the Bank's assets and liabilities. As a result of the volume of its interest-earning assets and interest-bearing liabilities, the interest-rate risk component of market risk has the greatest impact on the Bank's financial condition and results of operations.

Interest-rate risk represents the risk that the aggregate market value or estimated fair value of the Bank's asset, liability, and derivative portfolios will decline as a result of interest-rate volatility or that net earnings will be affected significantly by interest-rate changes. Interest-rate risk can occur in a variety of forms including repricing risk, yield-curve risk, basis risk, and option risk. The Bank faces repricing risk whenever an asset and a liability reprice at different times and with different rates, resulting in interest-margin sensitivity to changes in market interest rates. Yield-curve risk reflects the possibility that changes in the shape of the yield curve may affect the market value of the Bank's assets and liabilities differently because a liability used to fund an asset may be short-term, while the asset is long-term, or vice versa. Basis risk occurs when yields on assets and costs on liabilities are based on different bases, such as LIBOR, versus the Bank's cost of funds. Different bases can move at different rates or in different directions, which can cause erratic changes in revenues and expenses. Option risk is presented by the optionality that is embedded in some assets and liabilities. Mortgage assets represent the primary source of option risk.

The primary goal of the Bank's interest-rate risk measurement and management efforts is to control the above risks through prudent asset-liability management strategies so that the Bank may provide members with dividends that are consistently competitive with existing market interest rates on alternative short-term and variable-rate investments. The Bank attempts to manage interest-rate risk exposure by using appropriate funding instruments and hedging strategies. Hedging may occur at the micro level, for one or more specifically identified transactions, or at the macro level. Management evaluates the Bank's macro hedge position and funding strategies on a daily basis and makes adjustments as necessary.

The Bank measures its potential market risk exposure in a number of ways. These include asset, liability, and equity duration analyses; and earnings forecast scenario analyses that reflect repricing gaps. The Bank establishes tolerance limits for these financial metrics and uses internal models to measure each of these risk exposures at least monthly.

Use of Derivatives

The Bank enters into derivatives to reduce the interest-rate risk exposure inherent in otherwise unhedged assets and funding positions and attempts to do so in the most cost-efficient manner. The Bank does not engage in speculative trading of these instruments. The Bank's derivative positions may include interest-rate swaps, options, swaptions, interest-rate cap and floor agreements, and forward contracts. These derivatives are used to adjust the effective maturity, repricing frequency, or option characteristics of financial instruments to achieve risk-management objectives. Within its risk management strategy, the Bank uses derivative financial instruments in the following two ways:

- *As a fair-value hedge of an underlying financial instrument or a firm commitment.* For example, the Bank uses derivatives to reduce the interest-rate net sensitivity of consolidated obligations, advances, and investments by, in effect, converting them to a short-term interest rate. The Bank also uses derivatives to manage embedded options in assets and liabilities and to hedge the market value of existing assets and liabilities. The Bank's management reevaluates its hedging strategies from time to time and may change the hedging techniques used or adopt new strategies as deemed prudent.

- *As an asset-liability management tool, for which hedge accounting is not applied (non-qualifying hedge).* The Bank may enter into derivatives that do not qualify for hedge accounting. As a result, the Bank recognizes the change in fair value and interest income or expense of these derivatives in the "Noninterest income (loss)" section of the Statements of Income as "Net (losses) gains on derivatives and hedging activities" with no offsetting fair-value adjustments of the hedged asset, liability, or firm commitment. Consequently, these transactions can introduce earnings volatility.

The following table presents the notional amounts of derivative financial instruments (in millions). The category "Fair value hedges" represents hedge strategies for which hedge accounting is achieved. The category "Non-qualifying hedges" represents hedge strategies for which the derivatives are not in designated hedging relationships that formally meet the hedge accounting requirements under GAAP.

			As of December 31,	
			2019	2018
Hedged Item / Hedging Instrument	**Hedging Objective**	**Hedge Accounting Designation**	**Notional Amount**	**Notional Amount**
Advances				
Pay fixed, receive variable interest-rate swap (without options)	Converts the advance's fixed rate to a variable-rate index.	Fair value hedges	$ 2,382	$ 3,716
Pay fixed, receive variable interest-rate swap (with options)	Converts the advance's fixed rate to a variable-rate index and offsets option risk in the advance.	Fair value hedges	26,442	25,590
Pay fixed with embedded features, receive variable interest-rate swap (non-callable)	Reduces interest-rate sensitivity and repricing gaps by converting the advance's fixed rate to a variable-rate index and/or offsets embedded option risk in the advance.	Fair value hedges	260	—
Pay variable with embedded features, receive variable interest-rate swap (non-callable)	Reduces interest-rate sensitivity and repricing gaps by converting the advance's variable rate to a different variable-rate index and/or offsets embedded option risk in the advance.	Fair value hedges	43	206
Pay variable with embedded features, receive variable interest-rate swap (callable)	Reduces interest-rate sensitivity and repricing gaps by converting the advance's variable rate to a different variable-rate index and/or offsets embedded option risk in the advance.	Fair value hedges	650	—
		Total	29,777	29,512
Investments				
Pay fixed, receive variable interest-rate swap	Converts the investment's fixed rate to a variable-rate index.	Non-qualifying hedges	56	56
Consolidated Obligation Bonds				
Receive fixed, pay variable interest-rate swap (without options)	Converts the bond's fixed rate to a variable-rate index.	Fair value hedges	14,033	6,791
Receive fixed, pay variable interest-rate swap (with options)	Converts the bond's fixed rate to a variable-rate index and offsets option risk in the bond.	Fair value hedges	12,240	14,124
		Total	26,273	20,915
Consolidated Obligation Discount Notes				
Receive fixed, pay variable interest-rate swap	Converts the discount note's fixed rate to a variable-rate index.	Fair value hedges	17,587	—
Balance Sheet				
Pay fixed, receive variable interest-rate swap	Converts the asset or liability fixed rate to a variable-rate index.	Non-qualifying hedges	100	100
Interest-rate cap or floor	Protects against changes in income of certain assets due to changes in interest rates.	Non-qualifying hedges	7,000	8,000
		Total	7,100	8,100
Intermediary Positions and Other				
Pay fixed, receive variable interest-rate swap, and receive fixed, pay variable interest-rate swap	To offset interest-rate swaps executed with members by executing interest-rate swaps with derivatives counterparties.	Non-qualifying hedges	323	852
Interest-rate cap or floor	To offset interest-rate caps or floors executed with members by executing interest-rate caps or floors with derivatives counterparties.	Non-qualifying hedges	83	83
		Total	406	935
Total notional amount			$ 81,199	$ 59,518

Interest-rate Risk Exposure Measurement

The Bank measures interest-rate risk exposure by various methods. The primary methods used are (1) calculating the effective duration of assets, liabilities, and equity under various scenarios; and (2) calculating the theoretical market value of equity. Effective duration, normally expressed in years or months, measures the price sensitivity of the Bank's interest-bearing assets and liabilities to changes in interest rates. As effective duration lengthens, market-value changes become more sensitive to interest-rate changes. The Bank employs sophisticated modeling systems to measure effective duration.

Effective duration of equity aggregates the estimated sensitivity of market value for each of the Bank's financial assets and liabilities to changes in interest rates. Effective duration of equity is computed by taking the market value-weighted effective duration of assets, less the market value-weighted effective duration of liabilities, and dividing the remainder by the market value of equity. Market value of equity is not indicative of the market value of the Bank as a going concern or the value of the Bank in a liquidation scenario. An effective duration gap is the measure of the difference between the estimated effective durations of portfolio assets and liabilities and summarizes the extent to which the estimated cash flows for assets and liabilities are matched, on average, over time and across interest-rate scenarios.

A positive effective duration of equity or a positive effective duration gap results when the effective duration of assets is greater than the effective duration of liabilities. A negative effective duration of equity or a negative effective duration gap results when the effective duration of assets is less than the effective duration of liabilities. A positive effective duration of equity or a positive effective duration gap generally indicates that the Bank has some exposure to interest-rate risk in a rising rate environment, and a negative effective duration of equity or a negative effective duration gap generally indicates some exposure to interest-rate risk in a declining interest-rate environment. Higher effective duration numbers, whether positive or negative, indicate greater volatility of market value of equity in response to changing interest rates.

Bank policy requires the Bank to maintain its effective duration of equity within a range of plus five years to minus five years, assuming current interest rates, and within a range of plus seven years to minus seven years, assuming an instantaneous parallel increase or decrease in market interest rates of 200 basis points.

The following table presents the Bank's effective duration exposure measurements as calculated in accordance with Bank policy (in years).

	As of December 31,					
	2019			2018		
	Down 200 Basis Points [(1)]	Base Case	Up 200 Basis Points	Down 200 Basis Points [(1)]	Base Case	Up 200 Basis Points
Assets	0.23	0.21	0.28	0.14	0.20	0.25
Liabilities	0.21	0.20	0.18	0.25	0.25	0.21
Equity	0.53	0.37	2.38	(1.95)	(0.80)	0.99
Effective duration gap	0.02	0.01	0.10	(0.11)	(0.05)	0.04

(1) The "down 200 basis points" scenarios shown above are considered to be "constrained shocks," intended to prevent the possibility of negative interest rates when a designated low rate environment exists.

The Bank uses both sophisticated computer models and an experienced professional staff to measure the amount of interest-rate risk in the balance sheet, thus allowing management to monitor the risk against policy and regulatory limits. Management regularly reviews the major assumptions and methodologies used in the Bank's models and will make adjustments to the Bank's assumptions and methodologies in response to rapid changes in economic conditions.

The prepayment risk in both advances and investment assets can significantly affect the Bank's effective duration of equity and effective duration gap. Current regulations require the Bank to mitigate advance prepayment risk by establishing prepayment fees that make the Bank financially indifferent to a borrower's decision to prepay an advance that carries a rate above current market rates unless the advance contains explicit par value prepayment options. The Bank's prepayment fees for advances without embedded options are generally based on the present value of the difference between the rate on the prepaid advance and the current rate on an advance with an identical maturity date. Prepayment fees for advances that contain embedded options are generally based on the inverse of the market value of the derivative instrument that the Bank used to hedge the advance.

The prepayment options embedded in mortgage loan and mortgage security assets may shorten or lengthen both the actual and expected cash flows when interest rates change. Current Finance Agency policies limit this source of interest-rate risk by limiting the types of MBS the Bank may own to those with defined estimated average life changes under specific interest-rate shock scenarios. These limits do not apply to mortgage loans purchased from members. The Bank typically hedges mortgage prepayment uncertainty by using callable debt as a funding source and by using interest-rate cap, floor, and swaption transactions. The Bank also uses derivatives to reduce effective duration and option risks for investment securities other than MBS. Effective duration and option risk exposures are measured on a regular basis for all investment assets under alternative rate scenarios.

The Bank also analyzes its interest-rate risk and market exposure by evaluating the theoretical market value of equity. The market value of equity represents the net result of the present value of future cash flows discounted to arrive at the theoretical market value of each balance sheet item. By using the discounted present value of future cash flows, the Bank is able to factor in the various maturities of assets and liabilities, similar to the effective duration analysis discussed above. The Bank determines the theoretical market value of assets and liabilities utilizing a Level 3 pricing approach as more fully described in Note 18—Estimated Fair Values to the Bank's 2019 audited financial statements. The difference between the market value of total assets and the market value of total liabilities is the market value of equity. A more volatile market value of equity under different shock scenarios tends to result in a higher effective duration of equity, indicating increased sensitivity to interest rate changes.

The following table presents the Bank's market value of equity measurements as calculated in accordance with Bank policy (in millions).

	As of December 31,					
	2019			2018		
	Down 200 Basis Points [(1)]	Base Case	Up 200 Basis Points	Down 200 Basis Points [(1)]	Base Case	Up 200 Basis Points
Assets	$ 149,996	$ 148,896	$ 148,146	$ 154,492	$ 153,977	$ 153,290
Liabilities	142,301	141,858	141,313	147,120	146,378	145,710
Equity	7,695	7,038	6,833	7,372	7,599	7,580

(1) The "down 200 basis points" scenarios shown above are considered to be "constrained shocks," intended to prevent the possibility of negative interest rates when a designated low rate environment exists.

Under the Bank's RMP, the Bank's market value of equity must not decline by more than 15 percent, assuming an immediate, parallel, and sustained interest-rate shock of 200 basis points in either direction.

If effective duration of equity or market value of equity is approaching the boundaries of the Bank's RMP ranges, management will initiate remedial action or review alternative strategies at the next meeting of the board of directors or appropriate committee thereof.

Liquidity Risk

Liquidity risk is the risk that the Bank will be unable to meet its obligations as they come due or meet the credit needs of its members and borrowers in a timely and cost-efficient manner. The Bank's objective is to meet operational and member liquidity needs under all reasonable economic and operational situations. The Bank uses liquidity to absorb fluctuations in asset and liability balances and to provide an adequate reservoir of funding to support attractive and stable advance pricing. The Bank meets its liquidity needs from both asset and liability sources.

The Bank faces the following two basic types of liquidity risk: operational and contingent. The Bank maintains operational and contingent liquidity in compliance with regulatory requirements and performs a supplemental analysis to confirm that the Bank has sufficient liquidity reserves, as discussed in further detail in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources above.

Credit Risk

The Bank faces credit risk primarily with respect to its advances, investments, derivatives, and mortgage loan assets.

Advances

Secured advances to member financial institutions account for the largest category of Bank assets; thus, advances are a major source of the Bank's credit risk exposure. The Bank uses a risk-focused approach to credit and collateral underwriting. The Bank attempts to reduce credit risk on advances by monitoring the financial condition of borrowers and the quality and value of the assets that borrowers pledge as eligible collateral.

The Bank determines credit risk rating or risk level ratings for its members by evaluating each institution's overall financial health, taking into account the quality of assets, earnings, and capital position. Prior to September 27, 2019, the Bank assigned each borrower that is an insured depository institution or an insurance company a credit risk rating from one to 10 according to the relative amount of credit risk that such borrower poses to the Bank (one being the least amount of credit risk and 10 the greatest amount of credit risk). The Bank assigned each borrower that is not an insured depository institution or insurance company (including housing associates, community development financial institutions, and corporate credit unions), a risk level rating based on a risk matrix developed for each entity type. Each risk level rating generally corresponds to the one to 10 credit risk rating for insured depository institutions, 101 being the least amount of credit risk and 104 the greatest amount of credit risk.

Beginning on September 27, 2019, the Bank no longer assigned each borrower that is an insurance company a credit risk rating from one to 10, and began assigning a risk level rating by utilizing an external model. The rating process for other borrowers remains unchanged.

In general, borrowers with the greatest amount of credit risk may have more restrictions on the types of collateral they may use to secure advances, may be required to maintain higher collateral maintenance levels and deliver loan collateral, may be restricted from obtaining further advances, and may face more stringent collateral reporting requirements. At times, based upon the Bank's assessment of a borrower and its collateral, the Bank may place more restrictive requirements on a borrower than those generally applicable to borrowers with the same rating. Management and the board also monitor the Bank's concentration in secured credit and standby letters of credit exposure to individual borrowers.

The following table presents the number of borrowers and the par value of advances outstanding to borrowers with the specified ratings as of the specified dates (dollars in millions).

	As of December 31,			
	2019		2018	
Rating	**Number of Borrowers**	**Outstanding Advances**	**Number of Borrowers**	**Outstanding Advances**
1	96	$ 2,387	97	$ 2,176
2	62	14,958	50	18,472
3	48	10,287	75	22,207
4	91	61,269	104	60,897
5	40	4,695	57	3,083
6	7	79	13	361
7	4	31	9	140
8	1	16	3	262
9	2	12	6	190
10	3	31	5	85
Subtotal(rating from 1 to 10)		93,765		107,873
101	11	2,359	5	541
102	3	298	—	—
103	1	19	—	—
104	1	15	—	—
Subtotal(rating from 101 to 104)		2,691		541
Total par value		$ 96,456		$ 108,414

The Bank establishes a credit limit for each borrower. The credit limit is not a committed line of credit, but rather an indication of the borrower's general borrowing capacity with the Bank. The Bank determines the credit limit in its sole and absolute discretion by evaluating a wide variety of factors that indicate the borrower's overall creditworthiness. The credit limit is generally expressed as a percentage equal to the ratio of the borrower's total liabilities to the Bank (including the face amount of outstanding standby letters of credit, the par value of outstanding advances, and the total exposure of the Bank to the borrower under any derivative contract) to the borrower's total assets. Generally, borrowers are held to a credit limit of no more than 30 percent. However, the Bank's board of directors, or a relevant committee thereof, may approve a higher limit at its discretion, and such borrowers may be subject to certain additional collateral reporting and maintenance requirements. Five borrowers have been approved for a credit limit higher than 30 percent, and their total outstanding advance and standby letters of credit balance was $23.6 billion and $573 million, respectively, as of December 31, 2019.

The Bank obtains collateral on advances to protect against losses, but Finance Agency regulations permit the Bank to accept only certain types of collateral. Each borrower must maintain an amount of qualifying collateral that, when discounted to the lendable collateral value (LCV), is equal to at least 100 percent of the borrower's outstanding par value of all advances and other liabilities from the Bank. The LCV is the value that the Bank assigns to each type of qualifying collateral for purposes of determining the amount of credit that such qualifying collateral will support. For each type of qualifying collateral, the Bank discounts the market value of the qualifying collateral to calculate the LCV. The Bank regularly reevaluates the appropriate level of discounting. The Bank had rights to collateral on a borrower-by-borrower basis with an estimated value equal to or greater than its outstanding extension of credit as of December 31, 2019 and December 31, 2018. The following table presents information about the types of collateral held for the Bank's advances (dollars in millions).

	Total Par Value of Outstanding Advances	LCV of Collateral Pledged by Members	First Mortgage Collateral (%)	Securities Collateral (%)	Other Real Estate Related Collateral (%)
As of December 31, 2019	$ 96,456	$ 348,694	66.00	8.32	25.68
As of December 31, 2018	108,414	338,362	64.96	8.85	26.19

For purposes of determining each member's LCV, the Bank estimates the current market value of all residential first mortgage loans, commercial real estate loans, home equity loans, and lines of credit pledged as collateral based on information provided by the member on its loan portfolio or on individual loans through the regular collateral reporting process. The estimated market value is discounted to account for the (1) price volatility of loans, (2) model data uncertainty, and (3) estimated liquidation and servicing costs in the event of the member's default. Market values, and thus LCVs, change monthly. The use of this market-based valuation methodology allows the Bank to establish its collateral discounts with greater precision and to provide greater transparency with respect to the valuation of collateral pledged for advances and other credit products offered by the Bank.

The FHLBank Act affords any security interest granted to the Bank by any member of the Bank, or any affiliate of any such member, priority over the claims and rights of any party (including any receiver, conservator, trustee, or similar party having rights of a lien creditor) other than the claims and rights of a party that (1) would be entitled to priority under otherwise applicable law; and (2) is an actual bona fide purchaser for value or is an actual secured party whose security interest is perfected in accordance with applicable state law.

In its history, the Bank has never experienced a credit loss on an advance. In consideration of this and the Bank's policies and practices detailed above, the Bank has not established an allowance for credit losses on advances as of December 31, 2019 and 2018.

Investments

The Bank is subject to credit risk on unsecured investments, such as interest-bearing deposits and federal funds sold. These investments are generally transacted with government agencies and large financial institutions that are considered to be of investment quality.

In addition to Finance Agency regulations, the Bank has established guidelines approved by its board of directors regarding unsecured extensions of credit, with respect to term limits and eligible counterparties.

Finance Agency regulations prohibit the Bank from investing in any of the following securities:

- instruments, such as common stock, that represent an ownership interest in an entity, other than stock in small business investment companies, or certain investments targeted to low-income people or communities;
- instruments issued by non-United States entities, other than those issued by United States branches and agency offices of foreign commercial banks;

- debt instruments that are not of investment quality, other than certain investments targeted to low-income people or communities and instruments that the Bank determined became less than investment quality because of developments or events that occurred after purchase by the Bank;
- whole mortgages or other whole loans, other than the following: (1) those acquired under the Bank's mortgage purchase programs; (2) certain investments targeted to low-income people or communities; (3) certain marketable direct obligations of state, local, or tribal government units or agencies that are of investment quality; (4) MBS or asset-backed securities that are backed by manufactured housing loans or home equity loans; and (5) certain foreign housing loans that are authorized under section 12(b) of the FHLBank Act;
- interest-only or principal-only stripped MBS, collateralized mortgage obligations (CMOs), collateralized debt obligations, and real estate mortgage investment conduits (REMICs);
- residual-interest or interest-accrual classes of CMOs and REMICs;
- fixed-rate or variable-rate MBS, CMOs, and REMICs that are at rates equal to their contractual cap on the trade date and that have average lives that vary by more than six years under an assumed instantaneous interest-rate change of 300 basis points; and
- non-U.S. dollar denominated securities.

Finance Agency regulations do not permit the Bank to rely exclusively on Nationally Recognized Statistical Rating Organization (NRSRO) ratings with respect to its investments. The Bank is required to make a determination of whether a security is of investment quality based on its own documented analysis, which includes the NRSRO rating as one of the factors that is assessed to determine investment quality. The Bank monitors the financial condition of investment counterparties to ensure that they are in compliance with the Bank's RMP and Finance Agency regulations. Unsecured credit exposure to any counterparty is limited by the credit quality and capital of the counterparty and by the capital of the Bank. On a regular basis, management produces financial monitoring reports detailing the financial condition of the Bank's counterparties. These reports are reviewed by the Bank's board of directors. In addition to the Bank's RMP and regulatory requirements, the Bank may limit or suspend overnight and term trading. Limiting or suspending counterparties limits the pool of available counterparties, shifts the geographical distribution of counterparty exposure, and may reduce the Bank's overall investment opportunities.

The Bank only enters into investments with U.S. counterparties or U.S. branch offices of foreign banks that have been approved by the Bank through its internal approval process, but the Bank may still have exposure to foreign entities if a counterparty's parent entity is located in another country. The following tables present the Bank's gross exposure, by instrument type, according to the location of the parent company of the counterparty (in millions).

	As of December 31, 2019			
	Federal Funds Sold [(1)]	Interest-bearing Deposits [(2)]	Net Derivative Exposure [(3)]	Total
Australia	$ 975	$ —	$ —	$ 975
Austria	500	—	—	500
Canada	2,275	—	6	2,281
Finland	1,150	—	—	1,150
Germany	1,250	—	—	1,250
Japan	—	—	1	1
Netherlands	450	—	—	450
Norway	1,495	—	—	1,495
Switzerland	—	—	1	1
United States of America	1,731	3,810	16	5,557
Total	$ 9,826	$ 3,810	$ 24	$ 13,660

(1) Federal funds sold includes $100 million with BankUnited, National Association, one of the Bank's 10 largest borrowers as of December 31, 2019.
(2) Interest-bearing deposits include a $508 million business money market account with Truist Bank, one of the Bank's 10 largest borrowers as of December 31, 2019.
(3) Amounts do not reflect collateral; see the table under Risk Management–Credit Risk–Derivatives below for a breakdown of the credit ratings of and the Bank's credit exposure to derivative counterparties, including net exposure after collateral.

	As of December 31, 2018			
	Federal Funds Sold [(1)]	Interest-bearing Deposits [(2)]	Net Derivative Exposure [(3)]	Total
Australia	$ 1,965	$ —	$ —	$ 1,965
Austria	400	—	—	400
Canada	1,935	—	—	1,935
Finland	500	—	—	500
France	—	—	3	3
Germany	1,640	—	—	1,640
Netherlands	588	—	—	588
Norway	375	—	—	375
Switzerland	—	—	3	3
United States of America	1,575	6,782	2	8,359
Total	$ 8,978	$ 6,782	$ 8	$ 15,768

(1) Federal funds sold includes $175 million with BankUnited, National Association, and $425 million with Sun Trust Bank, both of which were one of the Bank's 10 largest borrowers as of December 31, 2018.
(2) Interest-bearing deposits include a $409 million business money market account with Branch Bank and Trust, one of the Bank's 10 largest borrowers as of December 31, 2018.
(3) Amounts do not reflect collateral; see the table under Risk Management–Credit Risk–Derivatives below for a breakdown of the credit ratings of and the Bank's credit exposure to derivative counterparties, including net exposure after collateral.

The Bank's unsecured credit exposure in its investment portfolio related to non-U.S. government and non-U.S. government agency counterparties decreased to $13.6 billion as of December 31, 2019 from $15.7 billion as of December 31, 2018. As of December 31, 2019, DnB Bank ASA was the only counterparty that had greater than 10 percent of the total unsecured credit exposure to non-U.S. government or non-U.S. government agencies counterparties. DnB Bank ASA had 11.0 percent of the total unsecured credit exposure to non-U.S. government or non-U.S. government agencies counterparties. As of December 31, 2019, this unsecured credit portfolio consisted primarily of federal funds sold with overnight maturities.

The Bank's RMP permits the Bank to invest in U.S. agency (i.e., Fannie Mae, Freddie Mac and Ginnie Mae) obligations including the following: (1) CMOs and REMICS that are backed by such securities; and (2) other MBS, CMOs, and REMICS that are of sufficient investment quality, which typically have the highest credit ratings issued by S&P or Moody's at the time of purchase. The private-label MBS purchased by the Bank originally attained their triple-A ratings through credit enhancements, which primarily consisted of the subordination of the claims of the other tranches of these securities. In addition to NRSRO ratings, the Bank considers a variety of credit quality factors when analyzing potential investments, such as collateral performance, marketability, asset class considerations, local and regional economic conditions, and the financial health of the underlying issuer.

The following tables present information on the credit ratings of the Bank's investments held as of December 31, 2019 and 2018 (in millions), based on their credit ratings as of December 31, 2019 and 2018, respectively. The credit ratings reflect the lowest long-term credit ratings as reported by an NRSRO.

	As of December 31, 2019 Carrying Value [(1)]										
	Investment Grade				Below Investment Grade						
	AAA	AA	A	BBB	BB	B	CCC	CC	D	Unrated	Total
Investment securities:											
Government-sponsored enterprises debt obligations	$ —	$ 4,556	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 4,556
U.S. Treasury obligations	—	1,499	—	—	—	—	—	—	—	—	1,499
State or local housing agency debt obligations	—	1	—	—	—	—	—	—	—	—	1
Mortgage-backed securities:											
U.S. agency obligations-guaranteed residential	—	89	—	—	—	—	—	—	—	—	89
Government-sponsored enterprises residential	—	8,642	—	—	—	—	—	—	—	—	8,642
Government-sponsored enterprises commercial	167	12,351	—	—	—	—	—	—	—	—	12,518
Private-label	—	38	44	47	54	18	210	34	48	383	876
Total mortgage-backed securities	167	21,120	44	47	54	18	210	34	48	383	22,125
Total investment securities	167	27,176	44	47	54	18	210	34	48	383	28,181
Other investments:											
Interest-bearing deposits	—	939	2,222	649	—	—	—	—	—	—	3,810
Securities purchased under agreements to resell	—	1,800	4,250	2,750	—	—	—	—	—	—	8,800
Federal funds sold	—	4,120	5,176	530	—	—	—	—	—	—	9,826
Total other investments	—	6,859	11,648	3,929	—	—	—	—	—	—	22,436
Total investments	$ 167	$ 34,035	$ 11,692	$ 3,976	$ 54	$ 18	$ 210	$ 34	$ 48	$ 383	$ 50,617

(1) Investment amounts noted in the above table represent the carrying value and excludes related accrued interest receivable of $44 million as of December 31, 2019.

	As of December 31, 2018										
	Carrying Value [1]										
	Investment Grade				Below Investment Grade						
	AAA	AA	A	BBB	BB	B	CCC	CC	D	Unrated	Total
Investment securities:											
Government-sponsored enterprises debt obligations	$ —	$ 2,727	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 2,727
State or local housing agency debt obligations	—	1	—	—	—	—	—	—	—	—	1
Mortgage-backed securities:											
U.S. agency obligations-guaranteed residential	—	118	—	—	—	—	—	—	—	—	118
Government-sponsored enterprises residential	—	9,304	—	—	—	—	—	—	—	—	9,304
Government-sponsored enterprises commercial	522	10,846	—	—	—	—	—	—	—	—	11,368
Private-label residential	—	77	92	112	119	50	246	44	68	473	1,281
Total mortgage-backed securities	522	20,345	92	112	119	50	246	44	68	473	22,071
Total investment securities	522	23,073	92	112	119	50	246	44	68	473	24,799
Other investments:											
Interest-bearing deposits	—	2,032	4,703	47	—	—	—	—	—	—	6,782
Securities purchased under agreements to resell	—	750	2,000	1,000	—	—	—	—	—	—	3,750
Federal funds sold	—	2,865	4,668	1,445	—	—	—	—	—	—	8,978
Total other investments	—	5,647	11,371	2,492	—	—	—	—	—	—	19,510
Total investments	$ 522	$28,720	$ 11,463	$ 2,604	$ 119	$ 50	$ 246	$ 44	$ 68	$ 473	$ 44,309

[1] Investment amounts noted in the above table represent the carrying value and excludes related accrued interest receivable of $42 million as of December 31, 2018.

Securities Purchased Under Agreements to Resell

Securities purchased under agreements to resell are considered collateralized financing arrangements and effectively represent short-term loans transacted with counterparties that the Bank considers to be of investment quality. The terms of these loans are structured such that if the fair value of the underlying securities decreases below the fair value required as collateral, the counterparty must place an equivalent amount of additional securities as collateral or remit an equivalent amount of cash. If an agreement to resell is deemed to be impaired, the difference between the fair value of the collateral and the amortized cost of the agreement is recognized in earnings. Based upon the collateral held as security, the Bank determined that no allowance for credit losses was needed for the securities purchased under agreements to resell as of December 31, 2019 and 2018.

Non-MBS Held-to-maturity Securities

The unrealized losses related to non-MBS held-to-maturity securities are caused by interest-rate changes. These losses are considered temporary as the Bank expects to recover the entire amortized cost basis on its non-MBS held-to-maturity securities in unrealized loss positions and neither intends to sell these securities nor considers it more likely than not that it will be required to sell these securities before its anticipated recovery of each security's remaining amortized cost basis. As a result, Bank does not consider these non-MBS held-to-maturity securities to be other-than-temporarily impaired as of December 31, 2019.

Non-Private-label MBS

The unrealized losses related to government-sponsored enterprise MBS are caused by interest-rate changes. Because these securities are guaranteed by government-sponsored enterprises, it is expected that these securities would not be settled at a price less than the amortized cost basis. The Bank does not consider these investments to be other-than-temporarily impaired as of December 31, 2019 because the decline in fair value is attributable to changes in interest rates and not credit quality; the Bank does not intend to sell the investments; and it is not more likely than not that the Bank will be required to sell the investments before recovery of their amortized cost basis, which may be at maturity.

Private-label MBS

For disclosure purposes, the Bank classifies private-label MBS as either prime or Alt-A based upon the overall credit quality of the underlying loans as determined by the originator at the time of origination, unless otherwise noted. Although there is no universally accepted definition of Alt-A, generally, loans with credit characteristics that range between prime and subprime are classified as Alt-A. Participants in the mortgage market have used the Alt-A classification principally to describe loans for which the underwriting process has been streamlined in order to reduce the documentation requirements of the borrower or allow for alternative documentation.

The following table presents information, based on investment ratings, on the Bank's private-label MBS as of December 31, 2019 (dollars in millions).

	Prime	Alt-A	Total
Investment Ratings:			
AA	$ 38	$ —	$ 38
A	44	—	44
BBB	42	5	47
BB	47	7	54
B	10	8	18
CCC	114	129	243
CC	21	20	41
D	50	—	50
Unrated	422	1	423
Total unpaid principal balance	$ 788	$ 170	$ 958
Amortized cost	$ 701	$ 134	$ 835
Gross unrealized losses	$ (2)	$ —	$ (2)
Fair value	$ 734	$ 142	$ 876
Other-than-temporary impairment (Year-to-date):			
Total other-than-temporary impairment losses	$ —	$ —	$ —
Net amount of impairment losses reclassified from accumulated other comprehensive income	(13)	—	(13)
Net impairment losses recognized in earnings	$ (13)	$ —	$ (13)
Weighted average percentage of fair value to unpaid principal balance	93.10%	83.56%	91.41%
Original weighted average credit support	10.38%	25.28%	13.02%
Weighted average credit support	5.16%	8.18%	5.70%
Weighted average collateral delinquency	10.79%	12.07%	11.02%

The following table presents a summary of the significant inputs used to evaluate each of the Bank's private-label MBS for other-than-temporary impairment as of December 31, 2019.

	Significant Inputs - Weighted Average (%)			
Classification of Securities [(1)]	Prepayment Rate	Default Rates	Loss Severities	Current Credit Enhancement (%)
Prime	15.02	8.98	25.64	8.56
Alt-A	15.86	14.31	41.27	3.80
Total	15.53	12.19	35.05	5.70

(1) The classification of securities is based on current characteristics and performance, which may be different from the securities' classification as determined by the originator at the time of origination.

For those securities for which an other-than-temporary impairment was determined to have occurred during 2019, a summary of the significant inputs used to measure the amount of the credit loss recognized in earnings is contained in Note 8—Other-than-temporary Impairment to the Bank's 2019 audited financial statements. In January 2020, the Bank sold its private-label MBS portfolio. See Note 22—Subsequent Events to the Bank's 2019 audited financial statements for additional information.

Derivatives

The Bank is subject to credit risk due to the risk of nonperformance by counterparties to its derivative transactions. The amount of credit risk on derivatives depends on the extent to which netting procedures, collateral requirements, and other credit enhancements are used and are effective in mitigating the risk. The Bank manages credit risk through credit analysis, collateral management, and other credit enhancements. The Bank is also required to follow the requirements set forth by applicable regulations.

The Bank's over-the-counter derivative transactions may either be (1) uncleared derivatives, which are executed bilaterally with a counterparty; or (2) cleared derivatives, which are cleared through a Futures Commission Merchant (clearing agent) with a Derivative Clearing Organization (Clearinghouse). Once a derivative transaction has been accepted for clearing by a Clearinghouse, the executing counterparty is replaced with the Clearinghouse as the counterparty.

For uncleared derivatives, the Bank is subject to nonperformance by counterparties. The Bank generally is required to post or collect collateral on uncleared derivative transactions. The amount of net unsecured credit exposure that is permissible with respect to each counterparty depends on the credit rating of that counterparty. A counterparty must deliver collateral to the Bank if the total market value of the Bank's exposure to that counterparty rises above a specific trigger point. As a result of these risk mitigation initiatives, the Bank does not anticipate any credit losses on its uncleared derivatives as of December 31, 2019.

Certain of the Bank's uncleared derivative instruments contain provisions that require the Bank to post additional collateral with its counterparties if there is a deterioration in the Bank's credit rating. If the Bank's credit rating had been lowered from its current rating to the next lower rating, the Bank would have been required to deliver $2 million of collateral at fair value to its uncleared derivative counterparties as of December 31, 2019.

If the counterparty has an NRSRO rating, the net exposure after collateral is treated as unsecured credit, consistent with the Bank's RMP and Finance Agency regulations. If the counterparty does not have an NRSRO rating, the Bank requires collateral for the full amount of the exposure.

For cleared derivatives, the Bank is subject to credit risk due to nonperformance by the Clearinghouse and clearing agent. The requirement that the Bank post initial and variation margin through the clearing agent, to the Clearinghouse, exposes the Bank to institutional credit risk in the event that the clearing agent or the Clearinghouse fails to meet its obligations. The use of cleared derivatives mitigates credit risk exposure because a central counterparty is substituted for individual counterparties, and collateral is posted daily for changes in the value of cleared derivatives through a clearing agent. The Bank utilizes two Clearinghouses for all cleared derivative transactions, LCH Ltd. and CME Clearing. Variation margin is characterized as daily settlement payments and is netted directly against the derivative's gross recognized amount. Initial margin is considered cash collateral. Because of the limited number of Clearinghouses and clearing agents, a risk of concentration is introduced. The Bank actively monitors Clearinghouses and clearing agents. An annual review of the Bank's Clearinghouses is performed, and the Bank also monitors its exposure to Clearinghouses on a monthly basis. The Bank also monitors the clearing agents through its unsecured credit system, and the Bank subjects these clearing agents to the same limits as other bilateral derivative counterparties. The parent companies of the clearing agents are monitored through annual reviews, as well as through the Bank's daily monitoring tools, which include reviewing equity triggers, debt triggers, and credit default swap spread triggers. In addition, exposures to the clearing agents are monitored daily on a swap counterparty report. The Bank currently has the following three approved clearing agents: Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC, and Goldman Sachs & Co. The Bank does not anticipate any credit losses on its cleared derivatives as of December 31, 2019.

The contractual or notional amount of derivative transactions reflects the involvement of the Bank in the various classes of financial instruments; however, the Bank's maximum credit risk with respect to derivative transactions is the estimated cost of replacing the derivative transactions if there is default, less the value of any related collateral, including initial and variation margin. In determining the maximum credit risk, the Bank considers accrued interest receivables and payables, as well as the netting requirements to net assets and liabilities.

The following tables present information on the credit ratings of, and the Bank's credit exposure to, its derivative counterparties (in millions). The credit ratings reflect the lowest long-term credit rating by an NRSRO.

	As of December 31, 2019				
	Notional Amount	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparty	Other Collateral Pledged To (From) Counterparty	Net Credit Exposure to Counterparties
Non-member counterparties:					
Asset positions with credit exposure:					
Double-A	$ 705	$ 6	$ (6)	$ —	$ —
Single-A	6,798	3	(1)	—	2
Cleared derivatives	23,766	15	336	—	351
Liability positions with credit exposure:					
Single-A	5,189	(165)	169	—	4
Triple-B	6,233	(18)	20	—	2
Cleared derivatives	31,425	(1)	18	—	17
Total derivative positions with non-member counterparties to which the Bank had credit exposure	74,116	(160)	536	—	376
Member institutions (1)	141	4	—	(4)	—
Total	$ 74,257	$ (156)	$ 536	$ (4)	$ 376

(1) Collateral held with respect to derivatives with member institutions when the Bank is acting as an intermediary represents the amount of eligible collateral physically held by or on behalf of the Bank or collateral assigned to the Bank, as evidenced by a written security agreement, and held by the member institution for the benefit of the Bank.

	As of December 31, 2018			
	Notional Amount	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparty	Net Credit Exposure to Counterparties
Non-member counterparties:				
Asset positions with credit exposure:				
Double-A	$ 698	$ —	$ —	$ —
Single-A	5,425	6	(6)	—
Triple-B	4,471	2	(2)	—
Cleared derivatives	969	—	3	3
Liability positions with credit exposure:				
Double-A	615	(1)	1	—
Single-A	4,816	(28)	29	1
Triple-B	4,608	(41)	41	—
Cleared derivatives	32,523	(33)	343	310
Total derivative positions with non-member counterparties to which the Bank had credit exposure	54,125	(95)	409	314
Member institutions [1]	3	—	—	—
Total	$ 54,128	$ (95)	$ 409	$ 314

[1] Collateral held with respect to derivatives with member institutions when the Bank is acting as an intermediary represents the amount of eligible collateral physically held by or on behalf of the Bank or collateral assigned to the Bank, as evidenced by a written security agreement, and held by the member institution for the benefit of the Bank.

Mortgage Loan Programs

The Bank seeks to manage the credit risk associated with the MPP and the MPF Program by maintaining underwriting and eligibility standards and structuring possible losses into several layers to be shared with the PFIs.

Mortgage loans purchased under the MPP and MPF Program must comply with the underwriting and eligibility standards set forth in applicable MPP guidelines or MPF guidelines. In both MPP and MPF, the Bank and PFIs share the risk of losses on mortgage loans by structuring potential losses on conventional mortgage loans into layers with respect to each master commitment and in compliance with the applicable regulations governing the purchase of mortgage loans by the Bank.

The unpaid principal balance of mortgage loans was $297 million and $361 million as of December 31, 2019 and 2018, respectively. The allowance for credit losses on mortgage loans was $1 million as of December 31, 2019 and 2018.

Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people or systems, or from external events. Operational risk for the Bank also includes reputation and legal risks associated with business practices or market conduct that the Bank may undertake. Operational risk inherently is greatest where transaction processes include numerous processing steps, require greater subjectivity, or are non-routine. The Bank operates in a complex business environment and is subject to numerous regulatory requirements.

The Bank identifies risk through daily operational monitoring, independent reviews, and the strategic planning and risk assessment programs that both consider the operational risk ramifications of the Bank's business strategies and environment. The Bank has established comprehensive financial and operating policies and procedures to mitigate the likelihood of loss resulting from the identified operational risks. In addition, the Bank's operational risk committee is responsible for overseeing the Bank's risk management policies, procedures, strategies, and activities related to operational risks, including overseeing the monitoring process and review of risk assessments. This oversight also includes compliance risk and reputational risk. The Bank effects related changes in processes, information systems, lines of communication, and other internal controls as deemed appropriate in response to identified or anticipated increases in operational risk.

The board of directors has an Enterprise Risk and Operations Committee (EROC) to advise and assist the board with respect to enterprise risk management, operations, information technology, and other related matters. In addition, the Bank's internal Enterprise Risk Committee (ERC) is responsible for the management and oversight of the Bank's risk management programs and practices. Additionally, the Bank's Internal Audit department, which reports directly to the Audit Committee of the Bank's board of directors, regularly tests compliance with the policies and procedures related to managing operational risks.

Cyber-Related Risks. The efficiencies offered by information technology (IT) are necessary components of Bank operations. The IT architecture supports multiple operating systems, database structures, and virtualized servers to support business applications that are a mixture of vendor-licensed and in-house developed. Cyber-attacks are increasing globally across all business sectors and cyber attackers are finding more ways to penetrate organizations' systems. Cybersecurity threats can result in damage to the Bank's physical facilities, technology systems, and/or the Bank's intangible assets. Successful attacks can have a financial, legal, and reputational impact on the Bank as well as disrupt the Bank's ability to serve its shareholders.

The Bank's board of directors, through EROC, oversees the major dimensions of the Bank's information technology program including management information systems to ensure alignment with the Bank's strategic plan, risk management activities, and operational performance standards. In that role, EROC oversees the development, implementation and maintenance of the Bank's information security program including recommending action to the board with respect to the Bank's information security policy on an annual basis and reviewing reports on the effectiveness of the Bank's information security program. The Bank's internal ERC reviews and reports to the board on the risk exposures and risk appetites of the Bank, including those related to information technology. In addition, the Bank's internal Information Technology Governance Committee oversees IT governance, including: IT risk management and IT operational performance, and the Bank's internal Security Governance Committee provides independent and integrated oversight of the information security program. Each of these committees provide information and make recommendations to the board, through the Bank's executive management committee, regarding their respective oversight authority.

Business Risk

Business risk is the risk of an adverse effect on the Bank's profitability resulting from external factors that may occur in both the short- and the long-term. Business risk includes political, strategic, reputation, and regulatory events that are beyond the Bank's control. In particular, during 2019 and continuing into 2020, the Bank faces business risk, which may include changes in:

- the overall economy;
- the financial services industry or the Bank's competitive environment; and
- legislation, regulation, or congressional scrutiny affecting the Bank or its members.

For discussion of the Bank's competition for advances, see Item 1, Business—Competition above. For discussion of recent regulatory activity that may have a material impact on the Bank's operations, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Legislative and Regulatory Developments. The Bank attempts to mitigate these risks through long-term strategic planning and through continually monitoring economic indicators and the external environment.

Cyclicality and Seasonality

The Bank's business and the demand for advances from the Bank are generally not subject to the effects of cyclical or seasonal variations, although the Bank's advance demand may vary based upon fluctuations of its members' consumer credit liquidity needs.

Effects of Inflation

The majority of the Bank's assets and liabilities are, and will continue to be, monetary in nature. Although interest rates do not necessarily move in the same direction, or to the same extent, as the prices of goods and services, higher rates of inflation generally result in corresponding increases in interest rates. Inflation, coupled with increasing interest rates, generally has the following effects on the Bank:

- the cost of the Bank's funds and operating overhead increases;

- the yield on variable-rate assets held by the Bank increases;
- the fair value of fixed-rate investments and mortgage loans held in portfolio decreases; and
- mortgage loan prepayment rates decrease and result in lower levels of mortgage loan refinance activity, which may result in the reduction of Bank advances to members as increased rates tend to slow home sales.

Conversely, lower rates of inflation or deflation have the opposite effects of the above on the Bank and its holdings.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

A discussion of the Bank's market risk is contained in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Market Risk.

Item 8. Financial Statements and Supplementary Data.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders
of the Federal Home Loan Bank of Atlanta

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying statements of condition of the Federal Home Loan Bank of Atlanta (the "Bank") as of December 31, 2019 and 2018, and the related statements of income, of comprehensive income, of capital and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the "financial statements"). We also have audited the Bank's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Bank as of December 31, 2019 and 2018**,** and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Bank's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Bank's financial statements and on the Bank's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Bank in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Atlanta, Georgia
March 5, 2020

We have served as the Bank's auditor since 1990.

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF CONDITION
(In millions, except par value)

	As of December 31, 2019	As of December 31, 2018
Assets		
Cash and due from banks	$ 911	$ 35
Interest-bearing deposits (including deposits with other FHLBanks of $5 and $20 as of December 31, 2019 and 2018, respectively)	3,810	6,782
Securities purchased under agreements to resell	8,800	3,750
Federal funds sold	9,826	8,978
Investment securities:		
Trading securities	1,558	55
Available-for-sale securities	684	865
Held-to-maturity securities (fair value of $25,903 and $23,846 as of December 31, 2019 and 2018, respectively)	25,939	23,879
Total investment securities	28,181	24,799
Advances	97,167	108,462
Mortgage loans held for portfolio, net of allowance for credit losses of $1 as of December 31, 2019 and 2018	296	360
Loan to another FHLBank	—	500
Accrued interest receivable	259	295
Derivative assets	380	314
Other assets	227	201
Total assets	$ 149,857	$ 154,476
Liabilities		
Interest-bearing deposits	$ 1,492	$ 1,176
Consolidated obligations, net:		
Discount notes	52,134	66,025
Bonds	88,503	79,114
Total consolidated obligations, net	140,637	145,139
Mandatorily redeemable capital stock	1	1
Accrued interest payable	212	204
Affordable Housing Program payable	89	85
Derivative liabilities	7	17
Other liabilities	256	207
Total liabilities	142,694	146,829
Commitments and contingencies (Note 19)		
Capital		
Capital stock Class B putable ($100 par value) issued and outstanding shares:		
Subclass B1 issued and outstanding shares: 9 as of December 31, 2019 and 2018	899	891
Subclass B2 issued and outstanding shares: 41 and 46 as of December 31, 2019 and 2018, respectively	4,089	4,595
Total capital stock Class B putable	4,988	5,486
Retained earnings:		
Restricted	537	463
Unrestricted	1,616	1,647
Total retained earnings	2,153	2,110
Accumulated other comprehensive income	22	51
Total capital	7,163	7,647
Total liabilities and capital	$ 149,857	$ 154,476

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

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF INCOME
(In millions)

	For the Years Ended December 31,		
	2019	2018	2017
Interest income			
Advances	$ 2,451	$ 2,227	$ 817
Interest-bearing deposits	93	101	29
Securities purchased under agreements to resell	118	46	10
Federal funds sold	279	223	128
Trading securities	25	1	9
Available-for-sale securities	85	101	106
Held-to-maturity securities	671	603	395
Mortgage loans	18	21	25
Total interest income	3,740	3,323	1,519
Interest expense			
Consolidated obligations:			
Discount notes	1,371	1,139	436
Bonds	1,808	1,604	915
Interest-bearing deposits	26	19	11
Total interest expense	3,205	2,762	1,362
Net interest income	535	561	157
Noninterest income (loss)			
Net impairment losses recognized in earnings	(13)	(3)	(2)
Net gains (losses) on trading securities	3	(1)	(5)
Net (losses) gains on derivatives and hedging activities	(4)	29	341
Standby letters of credit fees	24	25	26
Other	9	1	7
Total noninterest income	19	51	367
Noninterest expense			
Compensation and benefits	77	93	78
Other operating expenses	39	38	36
Finance Agency	10	8	9
Office of Finance	8	7	6
Other	12	4	7
Total noninterest expense	146	150	136
Income before assessment	408	462	388
Affordable Housing Program assessment	41	46	39
Net income	$ 367	$ 416	$ 349

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

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	For the Years Ended December 31,		
	2019	2018	2017
Net income	$ 367	$ 416	$ 349
Other comprehensive income (loss):			
Net noncredit portion of other-than-temporary impairment (losses) gains on available-for-sale securities:			
Net change in fair value on other-than-temporarily impaired available-for-sale securities	(44)	(65)	8
Reclassification of noncredit portion of impairment losses included in net income	13	3	2
Total net noncredit portion of other-than-temporary impairment (losses) gains on available-for-sale securities	(31)	(62)	10
Pension and postretirement benefit plans	2	3	(4)
Total other comprehensive (loss) income	(29)	(59)	6
Total comprehensive income	$ 338	$ 357	$ 355

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

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF CAPITAL
(In millions)

	Capital Stock Class B Putable		Retained Earnings			Accumulated Other Comprehensive Income	Total Capital
	Shares	Par Value	Restricted	Unrestricted	Total		
Balance, December 31, 2016	50	$ 4,955	$ 310	$ 1,582	$ 1,892	$ 104	$ 6,951
Issuance of capital stock	97	9,726	—	—	—	—	9,726
Repurchase/redemption of capital stock	(95)	(9,493)	—	—	—	—	(9,493)
Net shares reclassified to mandatorily redeemable capital stock	—	(34)	—	—	—	—	(34)
Comprehensive income	—	—	70	279	349	6	355
Cash dividends on capital stock	—	—	—	(238)	(238)	—	(238)
Balance, December 31, 2017	52	5,154	380	1,623	2,003	110	7,267
Issuance of capital stock	110	11,074	—	—	—	—	11,074
Repurchase/redemption of capital stock	(107)	(10,705)	—	—	—	—	(10,705)
Net shares reclassified to mandatorily redeemable capital stock	—	(37)	—	—	—	—	(37)
Comprehensive income (loss)	—	—	83	333	416	(59)	357
Cash dividends on capital stock	—	—	—	(309)	(309)	—	(309)
Balance, December 31, 2018	55	5,486	463	1,647	2,110	51	7,647
Issuance of capital stock	91	9,087	—	—	—	—	9,087
Repurchase/redemption of capital stock	(96)	(9,564)	—	—	—	—	(9,564)
Net shares reclassified to mandatorily redeemable capital stock	—	(21)	—	—	—	—	(21)
Comprehensive income (loss)	—	—	74	293	367	(29)	338
Cash dividends on capital stock	—	—	—	(324)	(324)	—	(324)
Balance, December 31, 2019	50	$ 4,988	$ 537	$ 1,616	$ 2,153	$ 22	$ 7,163

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

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF CASH FLOWS
(In millions)

	For the Years Ended December 31,		
	2019	**2018**	**2017**
Operating activities			
Net income	$ 367	$ 416	$ 349
Adjustments to reconcile net income to net cash (used in) provided by operating activities:			
Depreciation and amortization	(149)	111	(55)
Net change in derivative and hedging activities	(456)	66	55
Net change in fair value adjustment on trading securities	(3)	1	5
Net impairment losses recognized in earnings	13	3	2
Net change in:			
Accrued interest receivable	36	(87)	(36)
Other assets	(29)	11	4
Affordable Housing Program payable	3	7	6
Accrued interest payable	8	62	14
Other liabilities	10	(11)	(9)
Total adjustments	(567)	163	(14)
Net cash (used in) provided by operating activities	(200)	579	335
Investing activities			
Net change in:			
Interest-bearing deposits	2,860	(4,531)	(663)
Securities purchased under agreements to resell	(5,050)	(1,250)	(1,114)
Federal funds sold	(848)	402	(1,610)
Loans to other FHLBanks	500	(300)	(200)
Trading securities:			
Proceeds from principal collected	—	—	200
Purchases of long-term	(1,499)	—	—
Available-for-sale securities:			
Proceeds from principal collected	188	236	311
Held-to-maturity securities:			
Proceeds from principal collected	9,062	6,760	6,540
Purchases of long-term	(11,087)	(5,479)	(7,200)
Advances:			
Proceeds from principal collected	363,655	415,626	376,476
Made	(351,691)	(421,793)	(380,435)
Mortgage loans:			
Proceeds from principal collected	63	73	103
Purchases from another FHLBank	—	—	(18)
Proceeds from sale of foreclosed assets	2	3	4
Purchases of premises, equipment, and software	(4)	(5)	(5)
Net cash provided by (used in) investing activities	6,151	(10,258)	(7,611)

FEDERAL HOME LOAN BANK OF ATLANTA
STATEMENTS OF CASH FLOWS—(Continued)
(In millions)

	For the Years Ended December 31,		
	2019	2018	2017
Financing activities			
Net change in interest-bearing deposits	332	(26)	70
Net payments on derivatives containing a financing element	(3)	(5)	(30)
Proceeds from issuance of consolidated obligations:			
Discount notes	845,332	1,022,569	847,617
Bonds	115,627	68,281	70,703
Payments for debt issuance costs	(10)	(12)	(8)
Payments for maturing and retiring consolidated obligations:			
Discount notes	(859,116)	(1,006,848)	(838,777)
Bonds	(106,415)	(76,625)	(71,718)
Proceeds from issuance of capital stock	9,087	11,074	9,726
Payments for repurchase/redemption of capital stock	(9,564)	(10,705)	(9,493)
Payments for repurchase/redemption of mandatorily redeemable capital stock	(21)	(37)	(34)
Cash dividends paid	(324)	(309)	(238)
Net cash (used in) provided by financing activities	(5,075)	7,357	7,818
Net increase (decrease) in cash and due from banks	876	(2,322)	542
Cash and due from banks at beginning of the year	35	2,357	1,815
Cash and due from banks at end of the year	$ 911	$ 35	$ 2,357
Supplemental disclosures of cash flow information:			
Cash paid for:			
Interest	$ 3,294	$ 2,529	$ 1,346
Affordable Housing Program assessments, net	$ 37	$ 38	$ 31
Noncash investing and financing activities:			
Net shares reclassified to mandatorily redeemable capital stock	$ 21	$ 37	$ 34
Held-to-maturity securities acquired with accrued liabilities	$ 35	$ —	$ —
Transfers of mortgage loans to real estate owned	$ 1	$ 2	$ 3

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

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

Note 1—Nature of Operations

The Federal Home Loan Bank of Atlanta (Bank) is a federally chartered corporation and is one of 11 district Federal Home Loan Banks (FHLBanks). Each FHLBank operates as a separate entity within a defined geographic district and has its own management, employees, and board of directors. The Bank's defined geographic district includes Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and the District of Columbia. The FHLBanks are government-sponsored enterprises that were organized under the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), to serve the public by enhancing the availability of credit for residential mortgages and targeted community developments. The primary function of the Bank is to provide readily available, competitively priced funding to its member institutions.

The Bank is a cooperative whose member institutions own substantially all of the capital stock of the Bank. Former members and certain non-members, which own the Bank's capital stock as a result of a merger or acquisition of a member of the Bank, own the remaining capital stock to support business transactions still carried on the Bank's Statements of Condition. All holders of the Bank's capital stock are entitled to receive dividends on their capital stock, to the extent declared by the Bank's board of directors.

Federally-insured depository institutions, insurance companies, privately-insured state-chartered credit unions, and community development financial institutions that are located in the Bank's defined geographic district and engaged in residential housing finance are eligible to apply for membership. All members must purchase and hold capital stock of the Bank. A member's stock requirement is based on the amount of its total assets, as well as the amount of certain of its business activities with the Bank. Housing associates (including state and local housing authorities) that meet certain statutory criteria may also borrow from the Bank. While they are eligible to borrow, housing associates are not members of the Bank and are not allowed to hold capital stock. The Bank does not have any special purpose entities or any other types of off-balance sheet conduits.

The Federal Housing Finance Agency (Finance Agency) is the independent federal regulator of the FHLBanks and is responsible for ensuring that the FHLBanks (1) operate in a safe and sound manner, including that they maintain adequate capital and internal controls; (2) foster liquid, efficient, competitive, and resilient national housing finance markets through their operations and activities; (3) comply with applicable laws and regulations; and (4) carry out their housing finance mission through authorized activities that are consistent with the public interest. The Finance Agency also establishes policies and regulations covering the operations of the FHLBanks.

The Federal Home Loan Banks Office of Finance (Office of Finance), a joint office of the FHLBanks, facilitates the issuance and servicing of the FHLBanks' debt instruments, known as consolidated obligations, and prepares the combined quarterly and annual financial reports of the FHLBanks. As provided by the FHLBank Act and applicable regulations, the Bank's consolidated obligations are backed only by the financial resources of the FHLBanks. Consolidated obligations are the primary source of funds for the Bank in addition to deposits, other borrowings, and capital stock issued to members. The Bank primarily uses these funds to provide advances to members. The Bank also provides members and non-members with correspondent banking services, such as safekeeping, wire transfer, and cash management services.

Note 2—Summary of Significant Accounting Policies

Use of Estimates. The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP) requires the Bank's management to make subjective assumptions and estimates, which are based upon the information then available to the Bank and are inherently uncertain and subject to change. These assumptions and estimates may affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expenses. Actual results could differ significantly from these estimates.

Estimated Fair Values. The estimated fair value amounts, recorded on the Statements of Condition and in the note disclosures for the periods presented, have been determined by the Bank using available market and other pertinent information and reflect the Bank's best judgment of appropriate valuation methods. Although the Bank uses its best judgment in estimating the fair value of these financial instruments, there are inherent limitations in any valuation technique. Therefore, these fair values may not be indicative of the amounts that would have been realized in market transactions at the reporting dates.

Financial Instruments Meeting Netting Requirements. The Bank has certain financial instruments, including derivative instruments and securities purchased under agreements to resell, that are subject to offset under master netting agreements or by operation of law. The Bank has elected to offset its derivative asset and liability positions, as well as cash collateral received or pledged, when it has the legal right of offset under these master agreements. The Bank does not have any offsetting liabilities related to its securities purchased under agreements to resell for the periods presented.

The net exposure for these financial instruments can change on a daily basis; therefore, there may be a delay between the time this exposure change is identified and additional collateral is requested, and the time when this collateral is received or pledged. There may be a delay for excess collateral to be returned. For derivative instruments, any excess cash collateral received or pledged is recognized as a derivative liability or derivative asset based on the terms of the individual master agreement between the Bank and its derivative counterparty. Additional information regarding these agreements is provided in Note 17—Derivatives and Hedging Activities. Based on the fair value of the related securities held as collateral, the securities purchased under agreements to resell were fully collateralized for the periods presented.

Interest-bearing Deposits, Securities Purchased under Agreements to Resell, and Federal Funds Sold. Interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold provide short-term liquidity and are carried at cost. The Bank treats securities purchased under agreements to resell as short-term collateralized loans, which are classified as assets on the Statements of Condition. Securities purchased under agreements to resell are held in safekeeping in the name of the Bank by third-party custodians approved by the Bank. Should the fair value of the underlying securities decrease below the fair value required as collateral, the counterparty has the option to (1) place an equivalent amount of additional securities in safekeeping in the name of the Bank, or (2) remit an equivalent amount of cash; otherwise, the dollar value of the resale agreement will be decreased accordingly. Federal funds sold consist of short-term, unsecured loans transacted with counterparties that are considered by the Bank to be of investment quality. Interest on interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold is accrued as earned and recorded in interest income on the Statements of Income.

Investment Securities. Investment securities that the Bank has both the ability and intent to hold to maturity are classified as held-to-maturity and are carried at amortized cost, adjusted for periodic principal repayments, amortization of premiums, and accretion of discounts. Amortization of premiums and accretion of discounts are computed using the contractual level-yield method (contractual interest method), adjusted for actual prepayments. The contractual interest method recognizes the income effects of premiums and discounts over the contractual life of the securities based on the actual behavior of the underlying assets, including adjustments for actual prepayment activities, and reflects the contractual terms of the securities without regard to changes in estimated prepayments based on assumptions about future borrower behavior.

The Bank classifies certain investment securities acquired for purposes of liquidity and asset-liability management as trading investments and carries these securities at their estimated fair value. The Bank does not participate in speculative trading practices in these investments and generally holds them until maturity, except to the extent management deems necessary to manage the Bank's liquidity position. The Bank records changes in the fair value of these investments in noninterest income (loss) as "Net gains (losses) on trading securities" on the Statements of Income, along with gains and losses on sales of investment securities using the specific identification method.

The Bank classifies certain securities that are not held-to-maturity or trading as available-for-sale and carries these securities at their estimated fair value. The Bank records changes in the fair value of these investments in other comprehensive income. The Bank intends to hold its available-for-sale securities for an indefinite period of time but may sell them prior to maturity in response to changes in interest rates, prepayment risk, or other factors.

Other-than-temporary Impairment of Investment Securities. The Bank evaluates its individual available-for-sale and held-to-maturity securities in unrealized loss positions for other-than-temporary impairment on a quarterly basis. A security is considered impaired when its fair value is less than its amortized cost. The Bank considers an other-than-temporary impairment to have occurred under any of the following circumstances:

- the Bank has an intent to sell the impaired debt security;
- if, based on available evidence, the Bank believes it is more likely than not that it will be required to sell the impaired debt security before the recovery of its amortized cost basis; or
- the Bank does not expect to recover the entire amortized cost basis of the impaired debt security.

If either of the first two conditions above is met, the Bank recognizes an other-than-temporary impairment loss in earnings equal to the entire difference between the security's amortized cost basis and its fair value as of the Statements of Condition date.

For securities in an unrealized loss position that meet neither of the first two conditions, the Bank performs a cash flow analysis to determine if it will recover the entire amortized cost basis of each of these securities. The present value of the cash flows expected to be collected is compared to the amortized cost basis of the debt security to determine whether a credit loss exists. If there is a credit loss (the difference between the present value of the cash flows expected to be collected and the amortized cost basis of the debt security), the carrying value of the debt security is adjusted to its fair value. However, rather than recognizing the entire difference between the amortized cost basis and fair value in earnings, only the amount of the impairment representing the credit loss (i.e., the credit component) is recognized in earnings, while the amount related to all other factors (i.e., the non-credit component) is recognized in other comprehensive income. The credit loss on a debt security is limited to the amount of that security's unrealized losses.

For subsequent accounting of an other-than-temporarily impaired security, the Bank records an additional other-than-temporary impairment if the present value of cash flows expected to be collected is less than the amortized cost of the security. The total amount of this additional other-than-temporary impairment (both credit and non-credit component, if any) is determined as the difference between the security's amortized cost, less the amount of other-than-temporary impairment recognized in other comprehensive income prior to the determination of this additional other-than-temporary impairment, and its fair value. Any additional credit loss is limited to that security's unrealized losses or the difference between the security's amortized cost and its fair value as of the Statements of Condition date. This additional credit loss, up to the amount in accumulated other comprehensive income related to the security, is reclassified out of accumulated other comprehensive income and recognized in earnings. Any credit loss in excess of the related other comprehensive income is recorded as additional total other-than-temporary impairment loss and recognized in earnings.

For debt securities classified as available-for-sale, the Bank does not accrete the other-than-temporary impairment recognized in accumulated other comprehensive income to the carrying value. Rather, subsequent related increases and decreases (if not an other-than-temporary impairment) in the fair value of available-for-sale securities are netted against the non-credit component of other-than-temporary impairment recognized previously in accumulated other comprehensive income.

Upon subsequent evaluation of a debt security where there is no additional other-than-temporary impairment, the Bank adjusts the accretable yield on a prospective basis if there is a significant increase in the security's expected cash flows. As of the impairment measurement date, a new accretable yield is calculated for the impaired investment security. This adjusted yield is then used to calculate the interest income recognized over the remaining life of the security so as to match the amount and timing of future cash flows expected to be collected. Subsequent significant increases in estimated cash flows change the accretable yield on a prospective basis.

Advances. The Bank reports advances (secured loans to members, former members, or housing associates), net of discounts on advances related to the Affordable Housing Program (AHP) and the Economic Development and Growth Enhancement Program (EDGE), unearned commitment fees, and hedging basis adjustments. The Bank accretes the discounts on advances and amortizes the recognized unearned commitment fees and hedging adjustments to interest income using the contractual interest method. The Bank records interest on advances to interest income as earned.

Prepayment Fees. The Bank charges a borrower a prepayment fee when the borrower prepays certain advances before the original maturity date. The Bank records prepayment fees, net of basis adjustments related to hedging activities included in the carrying value of the advance as part of the advances line item in the interest income section of the Statements of Income. In cases in which there is a prepayment of an existing advance and a contemporaneous funding of a new advance, the Bank evaluates whether the new advance meets the accounting criteria to qualify as a modification of an existing advance or whether it constitutes a new advance. If the new advance qualifies as a modification of the existing advance, the hedging basis adjustments and the net prepayment fee on the prepaid advance are recorded in the carrying value of the modified advance and amortized over the life of the modified advance using the contractual interest method. This amortization is recorded in advance interest income. If the Bank determines that the transaction does not qualify as a modification of an existing advance, it is treated as an advance termination with subsequent funding of a new advance, and the Bank records the net fees as prepayment fees on advances, which is included in the advances line item in the interest income section of the Statements of Income.

Mortgage Loans Held for Portfolio. The Bank classifies mortgage loans that it has the intent and ability to hold for the foreseeable future, or until maturity or payoff, as held for portfolio. Accordingly, these mortgage loans are reported net of unamortized premiums, unaccreted discounts, mark-to-market basis adjustments on loans initially classified as mortgage loan commitments, and any allowance for credit losses.

The Bank defers and amortizes premiums and accretes discounts (1) paid to and received by the participating financial institutions (PFIs), and (2) mark-to-market basis adjustments on loans initially classified as mortgage loan commitments, as interest income using the contractual interest method.

A mortgage loan is considered past due when the principal or interest payment is not received in accordance with the contractual terms of the loan. The Bank places a conventional mortgage loan on nonaccrual status when the collection of the contractual principal or interest from the borrower is 90 days or more past due. When a mortgage loan is placed on nonaccrual status, accrued but uncollected interest is reversed against interest income. The Bank records cash payments received on nonaccrual loans as interest income and as a reduction of principal as specified in the contractual agreement. A loan on nonaccrual status may be restored to accrual status when the contractual principal and interest are less than 90 days past due. A government-guaranteed or -insured loan is not placed on nonaccrual status when the collection of the contractual principal or interest is 90 days or more past due because of (1) the U.S. government guarantee or insurance on the loan, and (2) the contractual obligation of the loan servicer to repurchase the loan when certain criteria are met.

A mortgage loan is considered impaired when, based on current information and events, it is probable that the Bank will be unable to collect all amounts due according to the contractual terms of the mortgage loan agreement. Interest income is recognized in the same manner as nonaccrual loans.

Finance Agency regulations require that mortgage loans held in the Bank's portfolios be credit enhanced. For conventional mortgage loans, PFIs retain a portion of the credit risk on the loans they sell to the Bank by providing credit enhancement either through a direct liability to pay credit losses up to a specified amount or through a contractual obligation to provide supplemental mortgage insurance. PFIs are paid a credit enhancement fee (CE Fee) for assuming credit risk, and in some instances, all or a portion of the CE Fee may be performance based. CE Fees are paid monthly based on the remaining unpaid principal balance of the loans in a master commitment. CE Fees are recorded as an offset to mortgage loan interest income. To the extent that the Bank experiences losses in a master commitment, it may be able to recapture CE Fees paid to the PFI to offset these losses.

Allowance for Credit Losses. The allowance for credit losses is a valuation allowance separately established for each identified portfolio segment of financing receivables, if necessary, to provide for probable incurred losses in the Bank's portfolio as of the Statements of Condition date. A portfolio segment is defined as the level at which an entity develops and documents a systematic methodology for determining its allowance for credit losses. The Bank has developed and documented a systematic methodology for determining an allowance for credit losses for the following portfolio segments of financing receivables: advances and standby letters of credit, government-guaranteed or -insured residential mortgage loans held for portfolio, conventional residential mortgage loans held for portfolio, term federal funds sold, and term securities purchased under agreements to resell.

A portfolio segment may be further disaggregated into classes of financing receivables to the extent that it is needed to understand the exposure to credit risk arising from these financing receivables; however, the Bank determined that no further disaggregation of the portfolio segments identified above is needed.

The Bank manages its credit exposure to advances and standby letters of credit through an integrated approach that includes (1) establishing a credit limit for each borrower; (2) an ongoing review of each borrower's financial condition; and (3) collateral and lending policies to limit risk of loss, while balancing each borrower's needs for a reliable source of funding. In addition, the Bank lends to financial institutions within its district and housing associates in accordance with federal statutes and Finance Agency regulations. Specifically, the Bank complies with the FHLBank Act, which requires the Bank to obtain sufficient collateral to fully secure advances. The estimated value of the collateral required to secure each borrower's advances is calculated by applying discounts to the fair value or unpaid principal balance of the collateral, as applicable. The Bank accepts certain investment securities, residential mortgage loans, deposits, and other real estate related assets as collateral. The Bank's capital stock owned by its member borrower is also pledged as additional collateral. Collateral arrangements may vary depending upon borrower credit quality, financial condition and performance, borrowing capacity, and the Bank's overall credit exposure to the borrower. The Bank can call for additional or substitute collateral to protect its security interest. The Bank believes that these policies effectively manage credit risk from advances and standby letters of credit.

Based upon the financial condition of the borrower, the Bank either allows a borrower to retain physical possession of the collateral pledged to it or requires the borrower to specifically assign the collateral to or place the collateral in physical possession of the Bank or its safekeeping agent. The Bank requires its borrowers to execute an advances and security agreement that establishes the Bank's security interest in all collateral pledged by the borrower to the Bank. The Bank perfects its security interest in all pledged collateral. The FHLBank Act affords any security interest granted to the Bank by a borrower priority over the claims or rights of any other party (including any receiver, conservator, trustee, or similar party having rights of a lien creditor), except for claims or rights of a third party that (1) would be entitled to priority under otherwise applicable law, and (2) is an actual bona fide purchaser for value or is an actual secured party whose security interest is perfected in accordance with state law.

Using a risk-based approach and taking into consideration each borrower's financial strength, the Bank considers the types and amounts of pledged collateral to be the primary indicator of credit quality on its advances. The Bank had rights to collateral on a borrower-by-borrower basis with an estimated value equal to or greater than its outstanding extensions of credit as of December 31, 2019 and 2018.

The Bank continues to evaluate and make changes to its collateral policies, as necessary, based on current market conditions. No advance was past due, on nonaccrual status, or considered impaired as of December 31, 2019 and 2018. In addition, there were no troubled debt restructurings related to advances as of December 31, 2019 and 2018.

Based upon the collateral held as security, the Bank's collateral policies, credit analysis, and the repayment history on advances, the Bank did not anticipate any credit losses on advances or standby letters of credit as of December 31, 2019 and 2018. Accordingly, the Bank has not recorded any allowance for credit losses on advances, nor has the Bank recorded any liability to reflect an allowance for credit losses for off-balance sheet credit exposure as of December 31, 2019 and 2018.

The Bank invested in government-guaranteed or -insured fixed-rate mortgage loans secured by one-to-four family residential properties. Government-guaranteed or -insured mortgage loans are mortgage loans guaranteed or insured by the Department of Veterans Affairs or the Federal Housing Administration. The servicer provides and maintains insurance or a guarantee from the applicable government agency. The servicer is responsible for compliance with all government agency requirements and for obtaining the benefit of the applicable insurance or guarantee with respect to defaulted government-guaranteed or -insured mortgage loans. Any losses incurred on these loans that are not recovered from the issuer or the guarantor are absorbed by the servicers. Therefore, the Bank only has credit risk for these loans if the servicer fails to pay for losses not covered by insurance or guarantees. Based on the Bank's assessment of its servicers and the collateral backing these loans, the Bank did not establish an allowance for credit losses for its government-guaranteed or -insured mortgage loan portfolio as of December 31, 2019 and 2018.

Modified loans that are considered a troubled debt restructuring are evaluated individually for impairment. All other conventional residential mortgage loans are evaluated collectively for impairment. The allowance for conventional residential mortgage loans is determined by an analysis (performed at least quarterly) that includes segregating the portfolio into various aging groups. For loans that are 60 days or less past due, the Bank calculates a loss severity, default rate, and the expected loss based on individual loan characteristics. For loans that are more than 60 days past due, the allowance is determined using an automated valuation model.

Modified loans that are considered a troubled debt restructuring are individually evaluated for impairment when determining the related allowance for credit losses. Credit loss is measured by factoring in expected cash shortfalls (i.e., loss severity rate) incurred as of the reporting date, as well as the economic loss attributable to delaying the original contractual principal and interest due dates.

A charge-off is recorded if the recorded investment in the loan will not be recovered. The Bank evaluates whether to record a charge-off on a conventional residential mortgage loan upon the occurrence of a confirming event. Once a loan is 180 days delinquent, the Bank classifies as a loss and charges off the portion of outstanding conventional residential mortgage loan balances in excess of the fair value of the underlying property, less costs to sell and adjusted for any available credit enhancements.

Term federal funds sold are generally short-term, their recorded balance approximates fair value, and they are transacted with counterparties that the Bank considers to be of investment quality. The Bank's investment in federal funds sold are evaluated for purposes of an allowance for credit losses only if the investment is not paid when due. All investments in federal funds sold are unsecured and were repaid or expected to be repaid according to the contracted terms as of December 31, 2019 and 2018.

Securities purchased under agreements to resell are considered collateralized financing arrangements and effectively represent short-term loans transacted with counterparties that the Bank considers to be of investment quality. The terms of these loans are structured such that if the fair value of the underlying securities decreases below the fair value required as collateral, the counterparty must place an equivalent amount of additional securities as collateral or remit an equivalent amount of cash. If an agreement to resell is deemed to be impaired, the difference between the fair value of the collateral and the amortized cost of the agreement is recognized in earnings. Based upon the collateral held as security, the Bank determined that no allowance for credit losses was needed for the securities purchased under agreements to resell as of December 31, 2019 and 2018.

Real estate owned (REO) includes assets that have been received in satisfaction of debt through foreclosures. REO is initially recorded at fair value, less estimated selling costs and is subsequently carried at the lower of that amount or current fair value, less estimated selling costs. The Bank recognizes a charge-off to the allowance for credit losses if the fair value of the REO, less estimated selling costs is less than the recorded investment in the loan at the date of transfer from loans to REO. Any subsequent realized gains, realized or unrealized losses, and carrying costs are included in noninterest income (loss) on the Statements of Income. REO is recorded in "Other assets" on the Statements of Condition and was less than $1 and $1 as of December 31, 2019 and 2018, respectively.

Derivatives and Hedging Activities. All derivatives are recognized on the Statements of Condition at their fair values and are reported as either derivative assets or derivative liabilities, net of cash collateral and accrued interest received from or pledged to clearing agents and/or counterparties. The fair values of derivatives are netted by the clearing agent and/or counterparty when the netting requirements have been met. If these netted amounts are positive, they are classified as an asset and, if negative, they are classified as a liability. Cash flows associated with derivatives are reflected as cash flows from operating activities on the Statements of Cash Flows unless the derivative meets the criteria to be a financing derivative.

Derivatives not used for intermediary purposes are designated as either (1) a hedge of the fair value of (a) a recognized asset or liability or (b) an unrecognized firm commitment (a fair-value hedge); or (2) a non-qualifying hedge of an asset or liability for asset-liability management purposes. Beginning January 1, 2019, the Bank adopted new hedge accounting guidance, which, among other things, impacts the presentation of gains (losses) on derivatives and hedging activities for qualifying hedges. Changes in the fair value of a derivative that are effective as, and that are designated and qualify as, a fair-value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk (including changes that reflect losses or gains on firm commitments), are recorded in net interest income in the same line as the earnings effect of the hedged item. Prior to January 1, 2019, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedged item) was recorded in noninterest income (loss) as "Net (losses) gains on derivatives and hedging activities" on the Statements of Income. A non-qualifying hedge is a derivative hedging specific or non-specific underlying assets, liabilities, or firm commitments that is an acceptable hedging strategy under the Bank's risk management program and Finance Agency regulatory requirements, but it does not qualify or was not designated for fair value or cash flow hedge accounting. A non-qualifying hedge introduces the potential for earnings variability because only the change in fair value of the derivative is recorded and is not offset by corresponding changes in the fair value of the non-qualifying hedged asset, liability, or firm commitment, unless such asset, liability, or firm commitment is required to be accounted for at fair value through earnings. Both the net interest on the derivative and the fair value adjustments of a non-qualifying hedge are recorded in noninterest income (loss) as "Net (losses) gains on derivatives and hedging activities" on the Statements of Income.

The derivatives used in intermediary activities do not qualify for hedge accounting treatment and are separately marked-to-market through earnings. These amounts are recorded in noninterest income (loss) as "Net (losses) gains on derivatives and hedging activities" on the Statements of Income. The net result of the accounting for these derivatives does not significantly impact the Bank's results of operations.

The net settlement of interest receivables and payables related to derivatives designated as fair-value hedges are recognized as adjustments to the interest income or interest expense of the designated hedged item. The net settlement of interest receivables and payables related to intermediated derivatives for members and other non-qualifying hedges are recognized in noninterest income (loss) as "Net (losses) gains on derivatives and hedging activities" on the Statements of Income.

(Dollars in millions, except per share amounts)

The Bank discontinues hedge accounting prospectively when (1) it determines that the derivative is no longer expected to be effective in offsetting changes in the fair value of a hedged risk, including hedged items such as firm commitments; (2) the derivative and/or the hedged item expires or is sold, terminated, or exercised; (3) a hedged firm commitment no longer meets the definition of a firm commitment; or (4) the bank determines that designating the derivative as a hedging instrument is no longer appropriate.

When hedge accounting is discontinued due to the Bank's determination that a derivative no longer qualifies as an effective fair-value hedge of an existing hedged item, or when the bank decides to cease the specific hedging activity, the Bank will either (1) terminate the derivative, or (2) continue to carry the derivative on the Statements of Condition at its fair value, cease to adjust the hedged asset or liability for changes in fair value, and amortize the cumulative basis adjustment on the hedged item into earnings over the remaining life of the hedged item using the level-yield method. In all situations in which hedge accounting is discontinued and the derivative remains outstanding, the Bank will carry the derivative at its fair value on the Statements of Condition, recognizing changes in the fair value of the derivative in current-period earnings.

The Bank may issue debt, make advances, or purchase financial instruments in which a derivative instrument may be "embedded." Upon execution of these transactions, the Bank assesses whether the economic characteristics of the embedded derivative are clearly and closely related to the economic characteristics of the remaining component of the advance, debt, or purchased financial instruments (i.e., the host contract) and whether a separate, non-embedded instrument with the same terms as the embedded instrument would meet the definition of a derivative instrument. When it is determined 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, stand-alone instrument with the same terms would qualify as a derivative instrument, the embedded derivative is separated from the host contract, carried at fair value, and designated as a stand-alone derivative instrument pursuant to a non-qualifying hedge. However, if the entire contract (the host contract and the embedded derivative) is to be measured at fair value, with changes in fair value reported in current-period earnings (e.g., an investment security classified as "trading"), or if the Bank could not identify and measure reliably the embedded derivative for purposes of separating that derivative from its host contract, the entire contract would be carried on the Statements of Condition at fair value, and no portion of the contract could be designated as a hedging instrument.

Premises, Equipment, and Software. Premises, equipment, and the cost of purchased software and certain costs incurred in developing computer software for internal use are recorded in "Other assets" on the Statements of Condition. The Bank records these items at cost, less accumulated depreciation or amortization. The Bank computes depreciation and amortization using the straight-line method over the estimated useful lives of assets. The estimated useful lives in years are generally as follows: automobiles and computer hardware—three; capitalized computer software cost—three; office equipment—eight; office furniture and building improvements—10; and building—40. The Bank amortizes leasehold improvements using the straight-line method over the shorter of the estimated useful life of the improvement or the remaining term of the lease. The Bank capitalizes improvements and expenses ordinary maintenance and repairs when incurred.

The following tables present information on premises, equipment, and capitalized computer software cost.

	As of December 31,			
	2019	2018	2019	2018
	Premises and Equipment		Computer Software Cost	
Gross carrying amount	$ 92	$ 91	$ 64	$ 62
Accumulated depreciation or amortization	(76)	(72)	(55)	(53)
Net carrying amount	$ 16	$ 19	$ 9	$ 9

	For the Years Ended December 31,		
	2019	2018	2017
Premises and equipment depreciation expense	$ 4	$ 4	$ 4
Software amortization expense	2	2	2

Deposits. The Bank offers demand and overnight deposits for members and qualifying non-members. A member that services mortgage loans may deposit funds in the Bank that were collected in connection with the mortgage loans, pending disbursement of such funds to the owners of the mortgage loans. The Bank records these items in "Interest-bearing deposits" on the Statements of Condition. The Bank pays interest on demand and overnight deposits based on a daily interest rate.

Consolidated Obligations. The Bank records consolidated obligations at amortized cost. Additionally, the Bank pays concessions to dealers in connection with the issuance of certain consolidated obligations. The Office of Finance prorates the concessions to the Bank based upon the percentage of the debt issued that is assumed by the Bank. The Bank records concessions paid on consolidated obligations as a direct deduction from their carrying amounts, consistent with the presentation of discounts on consolidated obligations. The Bank accretes discounts and amortizes premiums, as well as concessions and hedging basis adjustments on consolidated obligations, to interest expense using the contractual interest method over the contractual term of the corresponding consolidated obligation.

Mandatorily Redeemable Capital Stock. The Bank reclassifies stock that is subject to redemption from capital to a liability after a member submits a written redemption request, gives notice of intent to withdraw from membership, or attains non-member status through a merger or acquisition, charter termination, or involuntary termination from membership since the member shares will then meet the definition of a mandatorily redeemable financial instrument. Member shares meeting this definition are reclassified to a liability at fair value. Dividends declared on shares classified as a liability are accrued at the expected dividend rate and recorded as interest expense on the Statements of Income. The repurchase or redemption of these mandatorily redeemable financial instruments is recorded as cash outflows in the financing activities section of the Statements of Cash Flows.

If a member cancels its written notice of redemption or notice of withdrawal, the Bank will reclassify mandatorily redeemable capital stock from a liability to capital. After the reclassification, dividends on the capital stock no longer will be classified as interest expense.

Restricted Retained Earnings. The FHLBanks have entered into a Joint Capital Enhancement Agreement, as amended (Capital Agreement), which is intended to enhance the capital position of each FHLBank. Under the Capital Agreement, each FHLBank allocates 20 percent of its net income each quarter to a separate retained earnings account until the account balance equals at least one percent of the FHLBank's average balance of outstanding consolidated obligations for the previous quarter. Restricted retained earnings are not available to pay dividends and are presented separately on the Statements of Condition.

Finance Agency and Office of Finance Expenses. The Finance Agency allocates the FHLBanks' portion of its expenses and working capital fund among the FHLBanks based on the ratio between each FHLBank's minimum required regulatory capital and the aggregate minimum required regulatory capital of every FHLBank. Each FHLBank's proportionate share of the Office of Finance's operating and capital expenditures is calculated using a formula that is (1) two-thirds based upon each FHLBank's share of total consolidated obligations outstanding, and (2) one-third based upon an equal pro rata allocation.

Affordable Housing Program. The FHLBank Act requires each FHLBank to establish and fund an AHP that provides subsidies to members to assist in the purchase, construction, or rehabilitation of housing for very low-to-moderate-income households. The Bank charges the required funding for AHP against earnings and establishes a corresponding liability. The Bank issues AHP advances at interest rates below the customary interest rate for non-subsidized advances. A discount on the AHP advance and charge against the AHP liability is recorded for the present value of the variation in the cash flow caused by the difference in the interest rate between the AHP advance rate and the Bank's related cost of funds for comparable maturity funding. As an alternative, the Bank has the authority to make the AHP subsidy available to members as a grant. The discount on AHP advances is accreted to interest income on advances using the contractual interest method over the life of the advance.

(Dollars in millions, except per share amounts)

Note 3—Recently Issued and Adopted Accounting Guidance

The following tables provide a summary of accounting guidance issued by the Financial Accounting Standards Board that was adopted and recently issued guidance not yet adopted, which may impact the Bank's financial statements.

Recently Adopted Accounting Guidance

Accounting Standard Update (ASU)	Description	Effective Date	Effect on Financial Statements or Other Significant Matters
Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedging Purposes (ASU 2018-16)	This guidance permits the use of the OIS rate based on SOFR as a U.S. benchmark interest rate for hedge accounting purposes.	January 1, 2019	The adoption of this guidance did not have an impact on the Bank's financial condition or results of operations.
Targeted Improvements to Accounting for Hedging Activities (ASU 2017-12)	This guidance amends the accounting for derivatives and hedging activities to better portray the economics of the transactions.	January 1, 2019	The adoption of this guidance did not have an impact on the Bank's financial condition or results of operations.
Premium Amortization on Purchased Callable Debt Securities (ASU 2017-08)	This guidance shortens the amortization period for certain callable debt securities held at a premium by requiring that the premium be amortized to the earliest call date, rather than contractual maturity.	January 1, 2019	The adoption of this guidance did not have an impact on the Bank's financial condition or results of operations.
Leases (ASU 2016-02)	This guidance amends the accounting for leases. It will require lessees to recognize a right-of-use asset and lease liability for virtually all leases.	January 1, 2019	The adoption of this guidance did not have a material impact on the Bank's financial condition or results of operations.
Disclosure Framework–Changes to the Disclosure Requirements for Fair Value Measurement (ASU 2018-13)	This guidance amends the disclosure requirements on fair value measurements.	January 1, 2020	The adoption of this guidance did not have an impact on the Bank's financial condition or results of operations.
Measurement of Credit Losses on Financial Instruments (ASU 2016-13)	This guidance replaces the incurred loss impairment methodology in current GAAP with a methodology that reflects lifetime expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates.	January 1, 2020	The adoption of this guidance did not have an impact on the Bank's financial condition or results of operations.

(Dollars in millions, except per share amounts)

Recently Issued Accounting Guidance Not Yet Adopted

Accounting Standard Update (ASU)	Description	Effective Date	Effect on Financial Statements or Other Significant Matters
Disclosure Framework– Changes to the Disclosure Requirements for Defined Benefit Plans (ASU 2018-14)	This guidance amends the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans.	December 31, 2020 Early adoption is permitted	The Bank does not intend to adopt this guidance early. This guidance is not expected to have any impact on the Bank's financial condition or results of operations.

Note 4—Cash and Due from Banks

The Bank maintains a collected cash balance with a commercial bank, which is a member, in return for certain services, and the average collected cash balance was $8 for each year ended December 31, 2019 and 2018. There are no legal restrictions regarding the withdrawal of these funds.

Note 5—Trading Securities

Major Security Types. The following table presents trading securities.

	As of December 31,	
	2019	2018
U.S. Treasury obligations	$ 1,499	$ —
Government-sponsored enterprises debt obligations	59	55
Total	$ 1,558	$ 55

The following table presents net gains (losses) on trading securities.

	For the Years Ended December 31,		
	2019	2018	2017
Net gains (losses) on trading securities held at year end	$ 3	$ (1)	$ 1
Net losses on trading securities that matured during the year	—	—	(6)
Net gains (losses) on trading securities	$ 3	$ (1)	$ (5)

(Dollars in millions, except per share amounts)

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Note 6—Available-for-sale Securities

Major Security Type. The following table presents information on private-label residential mortgage-backed securities (MBS) that are classified as available-for-sale.

	Amortized Cost	Other-than-temporary Impairment Recognized in Accumulated Other Comprehensive Income [1]	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
As of December 31, 2019	$ 643	$ (1)	$ 42	$ —	$ 684
As of December 31, 2018	$ 793	$ (1)	$ 73	$ —	$ 865

[1] Amounts represent the non-credit portion of an other-than-temporary impairment during the life of the security.

The following table presents private-label residential MBS that are classified as available-for-sale with unrealized losses. The unrealized losses are aggregated by the length of time that the individual securities have been in a continuous unrealized loss position.

	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
As of December 31, 2019	4	$ 14	$ —	2	$ 3	$ (1)	6	$ 17	$ (1)
As of December 31, 2018	1	$ 3	$ —	2	$ 4	$ (1)	3	$ 7	$ (1)

Interest-rate Payment Terms. The following table presents interest-rate payment terms for investment securities classified as available-for-sale.

	As of December 31,	
	2019	2018
Variable-rate	$ 617	$ 779
Fixed-rate	26	14
Total amortized cost	$ 643	$ 793

The following table presents private-label residential MBS that are classified as available-for-sale and issued by members or affiliates of members, all of which have been issued by Bank of America Corporation, Charlotte, NC.

	Amortized Cost	Other-than-temporary Impairment Recognized in Accumulated Other Comprehensive Income [1]	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
As of December 31, 2019	$ 456	$ —	$ 31	$ —	$ 487
As of December 31, 2018	$ 539	$ —	$ 54	$ —	$ 593

[1] Amounts represent the non-credit portion of an other-than-temporary impairment during the life of the security.

(Dollars in millions, except per share amounts)

Note 7—Held-to-maturity Securities

Major Security Types. The following table presents held-to-maturity securities.

	As of December 31,							
	2019				2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
State or local housing agency debt obligations	$ 1	$ —	$ —	$ 1	$ 1	$ —	$ —	$ 1
Government-sponsored enterprises debt obligations	4,497	7	—	4,504	2,672	5	(2)	2,675
Mortgage-backed securities:								
U.S. agency obligations-guaranteed residential	89	—	—	89	118	2	—	120
Government-sponsored enterprises residential	8,642	20	(29)	8,633	9,304	40	(43)	9,301
Government-sponsored enterprises commercial	12,518	—	(34)	12,484	11,368	4	(41)	11,331
Private-label residential	192	1	(1)	192	416	4	(2)	418
Total	$ 25,939	$ 28	$ (64)	$ 25,903	$ 23,879	$ 55	$ (88)	$ 23,846

The following tables present held-to-maturity securities with unrealized losses. The unrealized losses are aggregated by major security type and by the length of time that the individual securities have been in a continuous unrealized loss position.

	As of December 31, 2019								
	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
Government-sponsored enterprises debt obligations	5	$ 380	$ —	—	$ —	$ —	5	$ 380	$ —
Mortgage-backed securities:									
Government-sponsored enterprises residential	96	2,504	(4)	54	2,336	(25)	150	4,840	(29)
Government-sponsored enterprises commercial	45	7,993	(13)	50	3,976	(21)	95	11,969	(34)
Private-label residential	15	62	—	19	65	(1)	34	127	(1)
Total	161	$ 10,939	$ (17)	123	$ 6,377	$ (47)	284	$ 17,316	$ (64)

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

	As of December 31, 2018								
	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
State or local housing agency debt obligations	—	$ —	$ —	1	$ 1	$ —	1	$ 1	$ —
Government-sponsored enterprises debt obligations	12	1,235	(1)	1	99	(1)	13	1,334	(2)
Mortgage-backed securities:									
Government-sponsored enterprises residential	54	2,704	(13)	22	1,382	(30)	76	4,086	(43)
Government-sponsored enterprises commercial	58	7,406	(34)	18	1,015	(7)	76	8,421	(41)
Private-label residential	26	139	(1)	11	25	(1)	37	164	(2)
Total	150	$ 11,484	$ (49)	53	$ 2,522	$ (39)	203	$ 14,006	$ (88)

Redemption Terms. The following table presents the amortized cost and estimated fair value of held-to-maturity securities by contractual maturity. MBS are not presented by contractual maturity because their actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

	As of December 31,			
	2019		2018	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Non-mortgage-backed securities:				
Due in one year or less	$ 1,202	$ 1,203	$ 225	$ 225
Due after one year through five years	3,035	3,037	2,057	2,058
Due after five years through 10 years	201	204	331	333
Due after 10 years	60	61	60	60
Total non-mortgage-backed securities	4,498	4,505	2,673	2,676
Mortgage-backed securities	21,441	21,398	21,206	21,170
Total	$ 25,939	$ 25,903	$ 23,879	$ 23,846

(Dollars in millions, except per share amounts)

Interest-rate Payment Terms. The following table presents interest-rate payment terms for investment securities classified as held-to-maturity.

	As of December 31, 2019	As of December 31, 2018
Non-mortgage-backed securities:		
Fixed-rate	$ 2,151	$ 101
Variable-rate	2,347	2,572
Total non-mortgage-backed securities	4,498	2,673
Mortgage-backed securities:		
Fixed-rate	1,177	1,914
Variable-rate	20,264	19,292
Total mortgage-backed securities	21,441	21,206
Total amortized cost	$ 25,939	$ 23,879

The following table presents private-label residential MBS that are classified as held-to-maturity and issued by members or affiliates of members, all of which have been issued by Bank of America Corporation, Charlotte, NC.

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
As of December 31, 2019	$ 65	$ —	$ —	$ 65
As of December 31, 2018	$ 91	$ 1	$ (1)	$ 91

Note 8—Other-than-temporary Impairment

Mortgage-backed Securities. The Bank's investments in MBS consist of U.S. agency guaranteed securities and senior tranches of private-label MBS. The Bank has increased exposure to the risk of loss on its investments in MBS when the loans backing the MBS exhibit high rates of delinquency and foreclosures, as well as losses on the sale of foreclosed properties. To reduce its risk of loss on such securities, the Bank regularly requires high levels of credit enhancements from the structure of the collateralized mortgage obligation. Credit enhancements are defined as the percentage of subordinate tranches, overcollateralization, or excess spread, or the support of monoline insurance, if any, in a security structure that will absorb the losses before the security that the Bank purchased will take a loss. The Bank does not purchase credit enhancements for its MBS from monoline insurance companies.

Non-private-label MBS. The unrealized losses related to U.S. agency MBS are caused by interest rate changes, not credit quality. These securities are guaranteed by government agencies or government-sponsored enterprises and the Bank does not expect these securities to be settled at a price less than their amortized cost basis. In addition, the Bank does not intend to sell these investments and it is not more likely than not that the Bank will be required to sell these investments before recovery of their amortized cost basis, which may be at maturity. The Bank does not consider these investments to be other-than-temporarily impaired as of December 31, 2019.

Private-label MBS. To assess whether the entire amortized cost basis of its private-label MBS will be recovered, the Bank performs a cash flow analysis for each of its private-label MBS using two third-party models.

The first third-party model considers borrower characteristics and the particular attributes of the loans underlying the Bank's securities, in conjunction with assumptions about future changes in home prices and interest rates, to project prepayments, defaults, and loss severities. A significant input to the first model is the forecast of future housing price changes for the relevant states and core based statistical areas, which are based upon an assessment of the individual housing markets. The Bank's housing price forecast as of December 31, 2019 included a short-term housing price forecast with geographically projected changes ranging from a decrease of four percent to an increase of eight percent over the 12 month period beginning October 1, 2019. For the vast majority of markets, the projected short-term housing price changes range from an increase of two percent to six percent. Thereafter, a unique path is projected for each geographic area based on an internally developed framework derived from historical data.

(Dollars in millions, except per share amounts)

The month-by-month projections of future loan performance derived from the first model, which reflect projected prepayments, defaults, and loss severities, were then input into a second model. The second model allocates the projected loan level cash flows and losses to the various security classes in the securitization structure in accordance with its prescribed cash flow and loss allocation rules.

At each quarter end, the Bank compares the present value of the cash flows (discounted at the securities' effective yield) expected to be collected with respect to its private-label MBS to the amortized cost basis of the security to determine whether a credit loss exists. For the Bank's variable rate and hybrid private-label MBS, the Bank uses a forward interest rate curve to project the future estimated cash flows. The Bank then uses the effective interest rate for the security prior to impairment for determining the present value of the future estimated cash flows. For securities previously identified as other-than-temporarily impaired, the Bank updates its estimate of future estimated cash flows on a quarterly basis.

The following table presents a summary of the significant inputs used to measure the amount of the credit loss recognized in earnings for those securities for which an other-than-temporary impairment was determined to have occurred during the year ended December 31, 2019, as well as the related current credit enhancement.

	Significant Inputs - Weighted Average (%) [1]			
Classification of Securities	**Prepayment Rates**	**Default Rates**	**Loss Severities**	**Current Credit Enhancement (%)**
Prime	14.92	9.33	25.51	2.66
Alt-A	17.23	11.42	40.18	0.69
Total	16.30	10.58	34.27	1.49

[1] The classification of securities is based on current characteristics and performance, which may be different from the securities' classification as determined by the originator at the time of origination.

The following table presents a roll-forward of the amount of credit losses on the Bank's investment securities recognized in earnings during the life of the securities for which a portion of the other-than-temporary loss was recognized in accumulated other comprehensive income.

	For the Years Ended December 31,		
	2019	**2018**	**2017**
Balance, beginning of year	$ 335	$ 394	$ 455
Amount related to credit loss for which an other-than-temporary impairment was previously recognized	13	3	2
Increase in cash flows expected to be collected, (accreted as interest income over the remaining lives of the applicable securities)	(51)	(62)	(63)
Balance, end of year	$ 297	$ 335	$ 394

Certain other private-label MBS that have not been designated as other-than-temporarily impaired have experienced unrealized losses and decreases in fair value due to interest rate volatility and illiquidity in the marketplace. As of December 31, 2019, these declines in fair value were considered temporary as the Bank expected to recover the amortized cost basis of the securities, the Bank did not intend to sell these securities, and it is was not more likely than not that the Bank would be required to sell these securities before the anticipated recovery of the securities' remaining amortized cost basis, which may be at maturity. This assessment is based on the fact that the Bank has sufficient capital and liquidity to operate its business and has no need to sell these securities, nor has the Bank entered into any contractual constraints that would require the Bank to sell these securities.

Non-MBS Held-to-Maturity Securities. The unrealized losses related to non-MBS held-to-maturity securities are caused by interest rate changes and not due to a significant deterioration in the fundamental credit quality of the obligations. The creditworthiness of the issuers and the strength of the underlying collateral were sufficient to protect the Bank from losses based on current expectations. The Bank does not intend to sell these investments, and it is not more likely than not that the Bank will be required to sell these investments before recovery of their amortized cost basis, which may be at maturity. The Bank does not consider these investments to be other-than temporarily impaired as of December 31, 2019.

(Dollars in millions, except per share amounts)

Note 9—Advances

Redemption Terms. The Bank had advances outstanding at interest rates ranging from zero percent to 7.54 percent as of December 31, 2019. Advances with interest rates of zero percent are AHP and EDGE subsidized advances and certain structured advances. The following table presents the Bank's advances outstanding.

	As of December 31,	
	2019	2018
Overdrawn demand deposit accounts	$ —	$ 33
Due in one year or less	64,413	72,300
Due after one year through two years	7,421	13,298
Due after two years through three years	5,420	5,403
Due after three years through four years	3,382	4,678
Due after four years through five years	4,778	3,997
Due after five years	11,042	8,705
Total par value	96,456	108,414
Deferred prepayment fees	(9)	(17)
Discount on AHP advances	(3)	(4)
Discount on EDGE advances	(2)	(2)
Hedging adjustments	725	71
Total	$ 97,167	$ 108,462

The Bank offers callable advances to members that may be prepaid on prescribed dates (call dates) without incurring prepayment or termination fees. The Bank also offers prepayable advances, which are variable-rate advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees. Other advances may be prepaid only by paying a fee to the Bank, so the Bank is financially indifferent to the prepayment of the advance. The Bank had callable and prepayable advances outstanding of $4,693 and $13,868 as of December 31, 2019 and 2018, respectively.

The following table presents advances by year of contractual maturity or next call date for callable advances.

	As of December 31,	
	2019	2018
Overdrawn demand deposit accounts	$ —	$ 33
Due or callable in one year or less	67,939	80,307
Due or callable after one year through two years	6,451	8,866
Due or callable after two years through three years	4,613	4,382
Due or callable after three years through four years	3,067	3,871
Due or callable after four years through five years	4,517	3,683
Due or callable after five years	9,869	7,272
Total par value	$ 96,456	$ 108,414

Convertible advances offered by the Bank allow the Bank to convert the fixed-rate advance to a variable-rate advance at the current market rate on certain specified dates. The Bank had convertible advances outstanding of $4,261 and $987 as of December 31, 2019 and 2018, respectively. The following table presents advances by year of contractual maturity or, for convertible advances, next conversion date.

(Dollars in millions, except per share amounts)

	As of December 31,	
	2019	2018
Overdrawn demand deposit accounts	$ —	$ 33
Due or convertible in one year or less	68,520	73,009
Due or convertible after one year through two years	7,437	13,484
Due or convertible after two years through three years	5,319	5,437
Due or convertible after three years through four years	3,342	4,642
Due or convertible after four years through five years	4,529	3,951
Due or convertible after five years	7,309	7,858
Total par value	$ 96,456	$ 108,414

Interest-rate Payment Terms. The following table presents interest-rate payment terms for advances.

	As of December 31,	
	2019	2018
Fixed-rate:		
Due in one year or less	$ 36,366	$ 40,578
Due after one year	25,985	24,043
Total fixed-rate	62,351	64,621
Variable-rate:		
Due in one year or less	28,047	31,755
Due after one year	6,058	12,038
Total variable-rate	34,105	43,793
Total par value	$ 96,456	$ 108,414

Advance Concentrations. The Bank's advances are concentrated in commercial banks, savings institutions, and credit unions and further is concentrated in certain larger borrowing relationships. The concentration of the Bank's advances to its 10 largest borrowers was $71,769 and $80,211 as of December 31, 2019 and 2018, respectively. This concentration represented 74.4 percent and 74.0 percent of the total par value of advances outstanding as of December 31, 2019 and 2018, respectively.

Based on the collateral pledged as security for advances, the Bank's credit analysis of members' financial condition, and prior repayment history, no allowance for credit losses on advances was deemed necessary by the Bank as of December 31, 2019 and 2018. No advance was past due as of December 31, 2019 and 2018.

For additional information related to the Bank's credit risk on advances and allowance for credit losses, see Note 2—Summary of Significant Accounting Policies.

Note 10—Mortgage Loans Held for Portfolio

The Bank purchased fixed-rate residential mortgage loans directly from PFIs, who service and credit enhance the residential mortgage loans that they sold to the Bank. The Bank ceased purchasing these loans directly from PFIs in 2008. The Bank may also acquire fixed-rate residential mortgage loans through participations in eligible mortgage loans purchased from other FHLBanks.

(Dollars in millions, except per share amounts)

The following table presents information on mortgage loans held for portfolio by contractual maturity at the time of purchase.

	As of December 31,	
	2019	2018
Medium-term (15 years or less)	$ 5	$ 8
Long-term (greater than 15 years)	292	353
Total unpaid principal balance	297	361
Premiums	1	1
Discounts	(1)	(1)
Total	$ 297	$ 361

The following table presents the unpaid principal balance of mortgage loans held for portfolio by collateral or guarantee type.

	As of December 31,	
	2019	2018
Conventional mortgage loans	$ 278	$ 338
Government-guaranteed or insured mortgage loans	19	23
Total unpaid principal balance	$ 297	$ 361

The Bank records credit enhancement fees related to residential mortgage loans as a reduction to mortgage loan interest income.

For information related to the Bank's credit risk on mortgage loans and allowance for credit losses, see Note 11—Allowance for Credit Losses.

Note 11—Allowance for Credit Losses

The following table presents the activity in the allowance for credit losses related to conventional residential mortgage loans.

	For the Years Ended December 31,		
	2019	2018	2017
Balance, beginning of year	$ 1	$ 1	$ 1
Provision for credit losses	—	—	—
Balance, end of year	$ 1	$ 1	$ 1

The following table presents the recorded investment in conventional residential mortgage loans by impairment methodology.

	As of December 31,	
	2019	2018
Allowance for credit losses:		
Collectively evaluated for impairment	$ 1	$ 1
Recorded investment:		
Individually evaluated for impairment	$ 8	$ 9
Collectively evaluated for impairment	271	330
Total recorded investment	$ 279	$ 339

The key credit quality indicator for mortgage loans is payment status. The following tables present the payment status of mortgage loans based on recorded investment as well as other delinquency statistics.

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

	As of December 31, 2019		
	Conventional Residential Mortgage Loans	Government-guaranteed or Insured Residential Mortgage Loans	Total
Past due 30-59 days	$ 8	$ 2	$ 10
Past due 60-89 days	2	—	2
Past due 90 days or more	6	—	6
Total past due mortgage loans	16	2	18
Total current mortgage loans	263	17	280
Total mortgage loans [1]	$ 279	$ 19	$ 298
Other delinquency statistics:			
In process of foreclosure [2]	$ 1	$ —	$ 1
Seriously delinquent rate [3]	1.96%	0.39%	1.86%
Past due 90 days or more and still accruing interest [4]	$ —	$ —	$ —
Mortgage loans on nonaccrual status [5]	$ 5	$ —	$ 5

[1] The difference between the recorded investment and the carrying value of total mortgage loans of $1 relates to accrued interest.
[2] Includes mortgage loans where the decision of foreclosure or similar alternative, such as a pursuit of deed-in-lieu, has been reported. Mortgage loans in the process of foreclosure are included in past due categories depending on their delinquency status.
[3] Mortgage loans that are 90 days or more past due or in the process of foreclosure expressed as a percentage of the total mortgage loan portfolio segment.
[4] Mortgage loans insured or guaranteed by the Federal Housing Administration or the Department of Veterans Affairs.
[5] Represents mortgage loans with contractual principal or interest payments 90 days or more past due and not accruing interest.

	As of December 31, 2018		
	Conventional Residential Mortgage Loans	Government-guaranteed or Insured Residential Mortgage Loans	Total
Past due 30-59 days	$ 8	$ 2	$ 10
Past due 60-89 days	3	—	3
Past due 90 days or more	6	—	6
Total past due mortgage loans	17	2	19
Total current mortgage loans	322	21	343
Total mortgage loans [1]	$ 339	$ 23	$ 362
Other delinquency statistics:			
In process of foreclosure [2]	$ 2	$ —	$ 2
Seriously delinquent rate [3]	1.93%	1.23%	1.89%
Past due 90 days or more and still accruing interest [4]	$ —	$ —	$ —
Mortgage loans on nonaccrual status [5]	$ 6	$ —	$ 6

[1] The difference between the recorded investment and the carrying value of total mortgage loans of $1 relates to accrued interest.
[2] Includes mortgage loans where the decision of foreclosure or similar alternative, such as a pursuit of deed-in-lieu, has been reported. Mortgage loans in the process of foreclosure are included in past due categories depending on their delinquency status.
[3] Mortgage loans that are 90 days or more past due or in the process of foreclosure expressed as a percentage of the total mortgage loan portfolio segment.
[4] Mortgage loans insured or guaranteed by the Federal Housing Administration or the Department of Veterans Affairs.
[5] Represents mortgage loans with contractual principal or interest payments 90 days or more past due and not accruing interest.

(Dollars in millions, except per share amounts)

A troubled debt restructuring is considered to have occurred when a concession that would not have been considered otherwise is granted to a borrower for economic or legal reasons related to the borrower's financial difficulties. The Bank has granted a concession when it does not expect to collect all amounts due under the original contract as a result of the restructuring. In the event the Bank grants a concession, the borrower's monthly payment is restructured for a period of up to 36 months to try to achieve a target housing expense ratio of not more than 31.0 percent of their qualifying income. To restructure the loan, the outstanding principal balance is first re-amortized to reflect a principal and interest payment for a term not to exceed 40 years. This results in a balloon payment at the original maturity date of the loan as the maturity date and number of remaining monthly payments are not adjusted. If the 31.0 percent housing expense ratio is not achieved through re-amortization, the interest rate is reduced below the original note rate in 0.125 percent increments to a floor rate of 3.00 percent until the target 31.0 percent housing expense ratio is met. These reductions in principal and interest payments are for the temporary payment modification period of up to 36 months. Additionally, a conventional residential mortgage loan in which the borrower filed for Chapter 7 bankruptcy and the bankruptcy court discharged the borrower's obligation to the Bank, is considered a troubled debt restructuring. Troubled debt restructurings are evaluated individually for impairment.

The following table presents the Bank's recorded investment balance in mortgage loans classified as troubled debt restructurings.

	As of December 31,					
	2019			2018		
	Performing	Non-performing	Total	Performing	Non-performing	Total
Conventional residential mortgage loans	$ 7	$ 1	$ 8	$ 8	$ 1	$ 9

Due to the minimal change in terms of modified loans (i.e., no write-offs of principal), the Bank's pre-modification recorded investment was not materially different than the post-modification recorded investment in troubled debt restructurings during the years ended December 31, 2019, 2018, and 2017.

The financial amounts related to the Bank's troubled debt restructurings and impaired loans are not material to the Bank's financial condition or results of operations for the periods presented.

Note 12—Consolidated Obligations

Consolidated obligations, consisting of consolidated obligation bonds and discount notes, are the joint and several obligations of the FHLBanks and are backed only by the financial resources of the FHLBanks.

The Bank is primarily liable for its portion of consolidated obligations (i.e., those issued on its behalf) and also is jointly and severally liable with the other 10 FHLBanks for the payment of principal and interest on all consolidated obligations of each of the FHLBanks. The Finance Agency, at its discretion, may require any FHLBank to make principal or interest payments due on any consolidated obligation, whether or not the consolidated obligation represents a primary liability of such FHLBank. Although it has never occurred, to the extent that an FHLBank makes any payment on a consolidated obligation on behalf of another FHLBank that is primarily liable for such consolidated obligation, Finance Agency regulations provide that the paying FHLBank is entitled to reimbursement from the noncomplying FHLBank for any payments made on its behalf and any other associated costs (including interest to be determined by the Finance Agency). However, if the Finance Agency determines that the noncomplying FHLBank is unable to satisfy its repayment obligations, the Finance Agency may allocate the outstanding liabilities of the noncomplying FHLBank among the remaining FHLBanks on a pro rata basis in proportion to each FHLBank's participation in all consolidated obligations outstanding. The Finance Agency reserves the right to allocate the outstanding liabilities for the consolidated obligations among the FHLBanks in any other manner it may determine to ensure that the FHLBanks operate in a safe and sound manner. The par value of the FHLBanks' outstanding consolidated obligations, including consolidated obligations issued by the Bank, was $1,025,895 and $1,031,617 as of December 31, 2019 and 2018, respectively.

Regulations require each FHLBank to maintain, in the aggregate, unpledged qualifying assets equal to that FHLBank's consolidated obligations outstanding. Qualifying assets are defined as cash; secured advances; obligations of or fully guaranteed by the United States; mortgages guaranteed or insured by the United States or its agencies; participations, mortgages, or other securities of or issued by certain government-sponsored enterprises; and such securities as fiduciary and trust funds may invest in under the laws of the state in which the FHLBank is located. The Bank held unpledged qualifying assets of $149,251 and $153,960 as of December 31, 2019 and 2018, respectively, compared to a book value of $140,637 and $145,139 in consolidated obligations as of December 31, 2019 and 2018, respectively.

(Dollars in millions, except per share amounts)

General Terms. Consolidated obligations are issued with either fixed- or variable-rate coupon payment terms and may use a variety of indices for interest-rate resets including the London Interbank Offered Rate (LIBOR), SOFR, and others. To meet the expected specific needs of certain investors in consolidated obligations, both fixed- and variable-rate consolidated obligation bonds may contain certain features, which may result in complex coupon payment terms and call options. When such consolidated obligations are issued, the Bank generally enters into derivatives containing offsetting features that, in effect, convert the terms of the consolidated obligation bond to those of a simple variable-rate consolidated obligation bond.

These consolidated obligations, beyond having fixed-rate or simple variable-rate coupon payment terms, may also have the following broad term regarding either principal repayment or coupon payment terms:

Optional Principal Redemption Consolidated Obligation Bonds (callable bonds) that the Bank may redeem in whole or in part at its discretion on predetermined call dates according to the terms of the consolidated obligation bond offerings.

With respect to interest payments, consolidated obligation bonds may have the following term in addition to fixed-rate and simple variable-rate payment terms:

Step-up/down Consolidated Obligation Bonds have coupons at fixed rates for specified intervals over the lives of the consolidated obligation bonds. At the end of each specified interval, the coupon rate increases (or decreases) or steps up (or steps down). These consolidated obligation bond issues generally contain call provisions enabling the bonds to be called at the Bank's discretion.

Interest-rate Payment Terms. The following table presents the Bank's consolidated obligation bonds by interest-rate payment type.

	As of December 31,	
	2019	**2018**
Simple variable-rate	$ 56,938	$ 53,670
Fixed-rate	30,810	21,217
Step up/down	735	4,379
Total par value	$ 88,483	$ 79,266

(Dollars in millions, except per share amounts)

Redemption Terms. The following table presents the Bank's participation in consolidated obligation bonds outstanding by year of contractual maturity.

	As of December 31,			
	2019		2018	
	Amount	Weighted-average Interest Rate (%)	Amount	Weighted-average Interest Rate (%)
Due in one year or less	$ 79,699	1.75	$ 55,386	2.26
Due after one year through two years	4,426	1.90	13,292	2.30
Due after two years through three years	817	2.32	3,387	2.44
Due after three years through four years	546	2.84	3,884	2.27
Due after four years through five years	1,635	2.47	1,429	2.87
Due after five years	1,360	3.54	1,888	3.23
Total par value	88,483	1.82	79,266	2.31
Premiums	4		7	
Discounts	(20)		(18)	
Hedging adjustments	36		(141)	
Total	$ 88,503		$ 79,114	

The following table presents the Bank's consolidated obligation bonds outstanding by call feature.

	As of December 31,	
	2019	2018
Noncallable	$ 76,243	$ 65,237
Callable	12,240	14,029
Total par value	$ 88,483	$ 79,266

The following table presents the Bank's consolidated obligation bonds outstanding, by year of contractual maturity, or for callable consolidated obligation bonds, by next call date.

	As of December 31,	
	2019	2018
Due or callable in one year or less	$ 81,624	$ 65,560
Due or callable after one year through two years	3,746	10,874
Due or callable after two years through three years	432	982
Due or callable after three years through four years	171	429
Due or callable after four years through five years	1,320	168
Due or callable after five years	1,190	1,253
Total par value	$ 88,483	$ 79,266

Consolidated Obligation Discount Notes. Consolidated obligation discount notes are issued to raise short-term funds and have original contractual maturities of up to one year. These consolidated obligation discount notes are issued at less than their face amounts and redeemed at par value when they mature.

(Dollars in millions, except per share amounts)

The following table presents the Bank's participation in consolidated obligation discount notes.

	Book Value	Par Value	Weighted-average Interest Rate (%)
As of December 31, 2019	$ 52,134	$ 52,298	1.64
As of December 31, 2018	$ 66,025	$ 66,270	2.33

Note 13—Affordable Housing Program

Affordable Housing Program. Annually, each FHLBank must set aside 10 percent of its income subject to assessment for the AHP, or such additional prorated sums as may be required so that the aggregate annual contribution of the FHLBanks is not less than $100. For purposes of the AHP calculation, each FHLBank's income subject to assessment is defined as the individual FHLBank's net income before assessments, plus interest expense related to mandatorily redeemable capital stock. The Bank accrues this expense monthly based on its income subject to assessment. The Bank reduces the AHP liability as members use subsidies.

If the Bank experienced a net loss during a quarter but had income subject to assessment in subsequent quarters, it would be required to contribute additional amounts to meet its calculated annual obligation based on the Bank's year-to-date income subject to assessment. If the Bank experienced a net loss for a full year, the Bank would have no obligation to the AHP for the year since each FHLBank's required annual AHP contribution is limited to its annual income subject to assessment. If the aggregate of 10 percent of income subject to assessment for all FHLBanks was less than $100, each FHLBank would be required to contribute additional amounts so that the aggregate contribution of the FHLBanks equals the required $100. Each FHLBanks' prorated contribution would be determined based on its income in relation to the income of all FHLBanks for the previous year. There was no shortfall in the years ended December 31, 2019, 2018, or 2017. If an FHLBank finds that its required contributions are contributing to the financial instability of that FHLBank, it may apply to the Finance Agency for a temporary suspension of its contributions. No FHLBank made such an application in the years ended December 31, 2019, 2018, or 2017. The Bank had outstanding principal in AHP-related advances of $19 and $22 as of December 31, 2019 and 2018, respectively.

The following table presents a rollforward of the Bank's AHP liability.

	For the Years Ended December 31,		
	2019	2018	2017
Balance, beginning of year	$ 85	$ 77	$ 69
AHP assessment	41	46	39
Subsidy usage, net	(37)	(38)	(31)
Balance, end of year	$ 89	$ 85	$ 77

Note 14—Capital and Mandatorily Redeemable Capital Stock

Capital. The Bank is subject to the following three regulatory capital requirements under its capital plan, the FHLBank Act, and Finance Agency regulations.

Risk-Based Capital. The Bank must maintain, at all times, permanent capital in an amount at least equal to the sum of its credit risk capital requirement, its market risk capital requirement, and its operations risk capital requirement, calculated in accordance with the rules and regulations of the Finance Agency. Permanent capital is defined by the FHLBank Act and regulations as the sum of retained earnings and the amounts paid-in for Class B stock. Only permanent capital satisfies the risk-based capital requirement. The Finance Agency may require the Bank to maintain a greater amount of permanent capital than is required by the risk-based capital requirement as defined.

Total Regulatory Capital. The FHLBank Act requires the Bank to maintain total regulatory capital in an amount equal to at least four percent of total assets at all times. Total regulatory capital is defined as the sum of permanent capital, the amount paid-in for Class A stock (if any), the amount of the Bank's general allowance for losses (if any), and the amount of any other instruments identified in the capital plan and approved by the Finance Agency. The Bank has not issued any Class A stock, has no general allowance for losses, and has no other instruments identified in the capital plan and approved by the Finance Agency; therefore, the Bank's total regulatory capital is equal to its permanent capital as of December 31, 2019 and 2018. Total regulatory capital does not include accumulated other comprehensive income but does include mandatorily redeemable capital stock.

(Dollars in millions, except per share amounts)

Leverage Capital. The FHLBank Act requires the Bank to maintain leverage capital in an amount equal to at least five percent of total assets at all times. Leverage capital is defined as the sum of permanent capital weighted 1.5 times and all other capital weighted 1.0 times. Although mandatorily redeemable capital stock is not included in capital for financial reporting purposes, such outstanding stock is considered capital for determining compliance with these regulatory capital requirements.

The following table presents the Bank's compliance with the Finance Agency's regulatory capital rules and requirements.

	As of December 31,			
	2019		2018	
	Required	Actual	Required	Actual
Risk-based capital	$ 1,423	$ 7,142	$ 1,654	$ 7,597
Total regulatory capital ratio	4.00%	4.77%	4.00%	4.92%
Total regulatory capital	$ 5,994	$ 7,142	$ 6,179	$ 7,597
Leverage capital ratio	5.00%	7.15%	5.00%	7.38%
Leverage capital	$ 7,493	$ 10,713	$ 7,724	$ 11,396

The Bank offers two subclasses of Class B stock, each of which is issued, redeemed, and repurchased at a par value of $100 per share. Member shares cannot be purchased or sold except between the Bank and its members at $100 per share par value. Shares of subclass B1 capital stock are issued to meet the membership stock requirement under the capital plan and shares of subclass B2 capital stock are issued to meet the activity-based stock requirement under the capital plan. Activity-based stock held by a member is that amount of subclass B2 capital stock that the member is required to own for as long as certain transactions between the Bank and the member remain outstanding. The manner in which the activity-based stock requirement is determined under the capital plan is set forth below.

The minimum stock requirement for each member is the sum of the membership stock requirement and the activity-based stock requirement. The capital plan permits the Bank's board of directors to set the membership and activity-based stock requirements within a range as set forth in the capital plan. As of December 31, 2019, the membership stock requirement was an amount of subclass B1 capital stock equal to 0.09 percent (nine basis points) of the member's total assets as of December 31, 2018, subject to a cap of $15. The membership stock requirement is recalculated using the member's total assets as of the preceding calendar year-end at least annually by March 31. As of December 31, 2019, the activity-based stock requirement was an amount of subclass B2 capital stock equal to the sum of the following:

- 4.25 percent of the member's outstanding par value of advances; and
- 8.00 percent of any outstanding targeted debt or equity investments (such as multifamily residential mortgage loan assets) sold by the member to the Bank on or after December 17, 2004.

The activity-based stock requirement also may include a percentage of any outstanding balance of acquired member assets (such as residential mortgage loan assets) although this percentage was set at zero as of December 31, 2019 and 2018.

The FHLBank Act and Finance Agency regulations require that the minimum stock requirement for members must be sufficient to enable the Bank to meet its minimum regulatory capital requirement. Therefore, from time to time, the Bank's board of directors may adjust the membership stock requirement and the activity-based stock requirement within specified ranges set forth in the capital plan. Any adjustment outside the ranges would require an amendment to the capital plan and Finance Agency approval. Each member is required to comply promptly with any adjustment to the minimum stock requirement. The FHLBank Act provides that the Bank may repurchase, at its sole discretion, any member's capital stock investment that exceeds the required minimum amount (excess capital stock). Under certain circumstances, Finance Agency regulations limit the ability of the Bank to create member excess stock. The Bank may not pay dividends in the form of capital stock or issue excess capital stock to any member if the Bank's excess capital stock exceeds one percent of its total assets or if the issuance of excess capital stock would cause the Bank's excess capital stock to exceed one percent of its total assets. As of December 31, 2019 and 2018, the Bank's excess capital stock did not exceed one percent of its total assets.

(Dollars in millions, except per share amounts)

A member may redeem its excess Class B capital stock at par value payable in cash five years after providing written notice to the Bank. The Bank, at its option, may repurchase a member's excess capital stock before expiration of the five-year notice period. The Bank's authority to redeem or repurchase capital stock is subject to a number of limitations.

Under Finance Agency regulations, the Bank's board of directors may, but is not required to, declare and pay non-cumulative dividends in cash or capital stock from unrestricted retained earnings and current earnings. All shares of capital stock share in any dividend without preference. Dividends are computed on the average daily balance of capital stock outstanding during the relevant time period. The Bank may not pay a dividend if the Bank is not in compliance with any of its regulatory capital requirements or if a payment would cause the Bank to fail to meet any of its regulatory capital requirements.

The Bank declares and pays any dividends only after net income is calculated for the preceding quarter. The following table presents the Bank's declared and paid quarterly cash dividends in 2019, 2018, and 2017.

	2019		2018		2017	
	Amount	Annualized Rate (%)	Amount	Annualized Rate (%)	Amount	Annualized Rate (%)
First quarter	$ 85	6.47	$ 65	5.16	$ 57	4.77
Second quarter	81	6.54	80	5.78	61	4.77
Third quarter	82	6.36	82	6.19	58	4.91
Fourth quarter	76	6.05	82	6.19	62	5.01
Total	$ 324	6.36	$ 309	5.77	$ 238	4.82

The concentration of the Bank's regulatory capital stock to its 10 largest shareholders was $3,200, or 64.1 percent, and $3,559, or 64.9 percent, as of December 31, 2019 and 2018, respectively.

The following table presents the activity in mandatorily redeemable capital stock.

	For the Years Ended December 31,		
	2019	2018	2017
Balance, beginning of year	$ 1	$ 1	$ 1
Net reclassification from capital during the year	21	37	34
Repurchase/redemption of mandatorily redeemable capital stock	(21)	(37)	(34)
Balance, end of year	$ 1	$ 1	$ 1

As of December 31, 2019, the Bank's outstanding mandatorily redeemable capital stock consisted of B1 membership stock and B2 activity-based stock. The Bank is not required to redeem activity-based stock until the later of the expiration of the redemption period, which is five years after notification is received, or until the activity no longer remains outstanding.

The following table presents the amount of mandatorily redeemable capital stock by year of redemption. The year of redemption in the table is the end of the five-year redemption period, or with respect to activity-based stock, the later of the expiration of the five-year redemption period or the activity's maturity date.

	As of December 31,	
	2019	2018
Due after three years through four years	$ 1	$ —
Due after four years through five years	—	1
Total	$ 1	$ 1

A member may cancel or revoke its written notice of redemption or its notice of withdrawal from membership at any time prior to the end of the five-year redemption period, subject to payment of a cancellation fee as set forth in the capital plan. If a member cancels its written notice of redemption or notice of withdrawal, the Bank will reclassify mandatorily redeemable capital stock from a liability to capital.

(Dollars in millions, except per share amounts)

Note 15—Accumulated Other Comprehensive Income

The following table presents the components comprising accumulated other comprehensive income.

	Pension and Postretirement Benefits	Net Noncredit Portion of Other-than-temporary Impairment Gains (Losses) on Available-for-sale Securities	Total Accumulated Other Comprehensive Income
Balance, December 31, 2016	$ (20)	$ 124	$ 104
Other comprehensive income before reclassifications:			
Net change in fair value	—	8	8
Actuarial loss	(5)	—	(5)
Prior service cost	(1)	—	(1)
Reclassification from accumulated other comprehensive income to net income:			
Noncredit other-than-temporary impairment losses	—	2	2
Amortization of pension and postretirement [1]	2	—	2
Net current period other comprehensive (loss) income	(4)	10	6
Balance, December 31, 2017	(24)	134	110
Other comprehensive income before reclassifications:			
Net change in fair value	—	(65)	(65)
Actuarial gain	3	—	3
Reclassification from accumulated other comprehensive income to net income:			
Noncredit other-than-temporary impairment losses	—	3	3
Net current period other comprehensive income (loss)	3	(62)	(59)
Balance, December 31, 2018	(21)	72	51
Other comprehensive income before reclassifications:			
Net change in fair value	—	(44)	(44)
Actuarial loss	(4)	—	(4)
Reclassification from accumulated other comprehensive income to net income:			
Noncredit other-than-temporary impairment losses	—	13	13
Amortization of pension and postretirement [1]	6	—	6
Net current period other comprehensive income (loss)	2	(31)	(29)
Balance, December 31, 2019	$ (19)	$ 41	$ 22

[1] Included in Noninterest expense - Other on the Statements of Income.

(Dollars in millions, except per share amounts)

Note 16—Pension and Postretirement Benefit Plans

The Bank participates in the Pentegra Defined Benefit Plan for Financial Institutions (Pentegra Plan), a tax-qualified defined-benefit pension plan. The Pentegra Plan is treated as a multiemployer plan for accounting purposes but operates as a multiple-employer plan under the Employee Retirement Income Security Act of 1974 (ERISA) and the Internal Revenue Code. As a result, certain multiemployer plan disclosures are not applicable to the Pentegra Plan. Under the Pentegra Plan, contributions made by a participating employer may be used to provide benefits to employees of other participating employers because assets contributed by an employer are not segregated in a separate account or restricted to provide benefits only to employees of that employer. Also, in the event a participating employer is unable to meet its contribution requirements, the required contributions for the other participating employers could increase proportionately. The Pentegra Plan covers substantially all officers and employees of the Bank hired before March 1, 2011.

The Pentegra Plan operates on a fiscal year from July 1 through June 30. The Pentegra Plan files one Form 5500 on behalf of all employers who participate in the plan. The Employer Identification Number is 13-5645888, and the three-digit plan number is 333. There are no collective bargaining agreements in place at the Bank.

The Pentegra Plan's annual valuation process includes separately calculating the plan's funded status and the funded status of each participating employer. The funded status is defined as the fair value of assets divided by the funding target (100 percent of the present value of all benefit liabilities accrued at that date). As permitted by ERISA, the Pentegra Plan accepts contributions for the prior plan year up to eight and a half months after the asset valuation date. As a result, the fair value of assets at the valuation date (July 1) will increase by any subsequent contributions designated for the immediately preceding plan year ended June 30.

The most recent Form 5500 available for the Pentegra Plan is for the year ended June 30, 2018. The contributions made by the Bank during 2019 and 2018 were more than five percent of the total contributions for each of the Pentegra Plan years ended June 30, 2018 and 2017.

The following table presents information on the net pension costs and funded status of the Pentegra Plan.

	2019	2018	2017
Net pension cost charged to compensation and benefit expense for the year ended December 31	$ 11	$ 24	$ 12
Pentegra Plan funded status as of July 1[1]	108.59%	110.96%	111.76%
Bank's funded status as of July 1	119.41%	116.93%	117.96%

[1] The Pentegra Plan's funded status as of July 1 is preliminary and may increase because the plan's participants are permitted to make contributions through March 15 of the following year (i.e. through March 15, 2020 for the plan year ended June 30, 2019 and through March 15, 2019 for the plan year ended June 30, 2018). Contributions made before the March 15th deadline may be credited to the plan for the plan year ended June 30 of the previous year and included in the final valuation as of July 1 of the year the plan ended. The final funded status as of July 1 will not be available until the Form 5500 for the plan year July 1 through June 30 is filed. Form 5500 is due to be filed no later than April 2021 for the plan year July 1, 2019 through June 30, 2020 and April 2020 for the plan year July 1, 2018 through June 30, 2019. Form 5500 was filed in April 2019 for the plan year July 1, 2017 through June 30, 2018.

The Bank also participates in a qualified defined contribution plan. The Bank's contribution to this plan is equal to a percentage of voluntary contributions, subject to certain limitations, plus contributions for all employees hired on or after March 1, 2011. The Bank contributed $3 to this plan during each of the years ended December 31, 2019, and 2018, and 2017.

The Bank offers a supplemental nonqualified defined contribution retirement plan to eligible executives. The Bank's contribution to this plan is equal to a percentage of voluntary contributions. The Bank contributions to this plan were not material during each of the years ended December 31, 2019, 2018, and 2017.

In addition, the Bank maintains a nonqualified deferred compensation plan, available to Bank directors and officers at the senior vice president level and above, which is, in substance, an unfunded supplemental savings plan. The plan's liability consists of the accumulated compensation deferrals and accrued earnings on those deferrals. The Bank's minimum obligation from this plan was $5 and $4 as of December 31, 2019 and 2018, respectively. Operating expense includes deferred compensation and accrued earnings of $2 for the year ended December 31, 2019, and $1 for each of the years ended December 31, 2018 and 2017.

The Bank offers a supplemental nonqualified defined benefit pension plan to eligible executives and a postretirement health benefit plan to eligible retirees. There are no funded plan assets that have been designated to provide supplemental retirement plan or postretirement health benefits.

Amounts recognized in other liabilities (funded status) on the Statements of Condition for the Bank's supplemental defined benefit pension plan and postretirement health benefit plan was $64 and $65 as of December 31, 2019 and 2018, respectively. The net periodic benefit costs recognized in "Compensation and benefits" on the Statements of Income for the Bank's supplemental defined benefit pension plan and postretirement health benefit plan was $2, $1, and $2 for the years ended December 31, 2019, 2018, and 2017. The amount recognized in other comprehensive income (loss) related to pension and postretirement benefit plans on the Statements of Comprehensive Income for the Bank's supplemental defined benefit pension plan and postretirement health benefit plan was income of $2, $3, and a loss of $4 for the years ended December 31, 2019, 2018, and 2017, respectively.

The financial amounts related to the Bank's supplemental nonqualified defined benefit pension plan and postretirement health benefit plan are not material to the Bank's financial condition or results of operations.

Note 17—Derivatives and Hedging Activities

Nature of Business Activity

The Bank is exposed to interest-rate risk primarily from the effect of interest rate changes on its interest-earning assets and on its interest-bearing liabilities that finance these assets. To mitigate the risk of loss, the Bank has established policies and procedures, which include guidelines on the amount of exposure to interest rate changes that it is willing to accept. In addition, the Bank monitors the risk to its interest income, net interest margin, and average maturity of its interest-earning assets and funding sources. The goal of the Bank's interest-rate risk management strategies is not to eliminate interest-rate risk, but to manage it within appropriate limits.

The Bank enters into derivatives to manage the interest-rate risk exposure that is inherent in its otherwise unhedged assets and funding sources, to achieve the Bank's risk management objectives, and to act as an intermediary between its members and counterparties. Finance Agency regulations and the Bank's risk management policy prohibit the trading or speculative use of these derivative instruments and limit credit risk arising from these instruments. The use of derivatives is an integral part of the Bank's financial management strategy.

The most common ways in which the Bank uses derivatives are to:

- preserve a favorable interest-rate spread between the yield of an asset (e.g., an advance) and the cost of the related liability (e.g., the consolidated obligation bond used to fund the advance) by converting both fixed-rate instruments to a variable rate using interest-rate swaps;
- reduce funding costs by combining a derivative with a consolidated obligation because the cost of a combined funding structure can be lower than the cost of a comparable consolidated obligation bond;
- reduce the interest-rate sensitivity and repricing gaps of assets and liabilities;
- mitigate the adverse earnings effects from the shortening or lengthening of certain assets (e.g., mortgage assets) and liabilities;
- protect the value of existing asset or liability positions;
- manage embedded options in assets and liabilities; and
- achieve overall asset/liability management objectives.

Application of Derivatives

General. The Bank designates derivative instruments in the following three ways: (1) as a fair value hedge of an underlying financial instrument or a firm commitment; (2) as an intermediary transaction; or (3) as a non-qualifying hedge for purposes of asset or liability management.

The Bank reevaluates its hedging strategies from time to time and may change the hedging techniques it uses or adopt new strategies.

The Bank transacts most of its derivatives with large banks and major broker-dealers. Some of these banks and broker-dealers or their affiliates buy, sell, and distribute consolidated obligations. The Bank's over-the-counter derivatives transactions may either be (1) uncleared derivatives, which are executed bilaterally with a counterparty; or (2) cleared derivatives, which are cleared through a Futures Commission Merchant (clearing agent) with a Derivatives Clearing Organization (Clearinghouse).

Once a derivatives transaction has been accepted for clearing by a Clearinghouse, the executing counterparty is replaced with the Clearinghouse as the counterparty. The Bank is not a derivatives dealer and does not trade derivatives for short-term profit.

The Bank uses derivatives when they are considered to be the most cost-effective alternative to achieve the Bank's long-term financial and risk management objectives. Accordingly, the Bank may enter into derivatives that do not qualify for hedge accounting (non-qualifying hedges).

Types of Derivatives

The Bank may use the following types of derivatives to reduce funding costs and to manage its exposure to interest-rate risks inherent in the normal course of business.

Interest-Rate Swaps. An interest-rate swap is an agreement between two entities to exchange cash flows in the future. The agreement sets the dates on which the cash flows will be exchanged and the manner in which the cash flows will be calculated. One of the simplest forms of an interest-rate swap involves the promise by one party to pay cash flows equivalent to the interest on a notional principal amount at a predetermined fixed rate for a given period of time. In return for this promise, this party receives cash flows equivalent to the interest on the same notional principal amount at a variable rate for the same period of time. The variable rate received or paid by the Bank in most derivative transaction agreements is LIBOR.

Swaptions. A swaption is an option on a swap that gives the buyer the right to enter into a specified interest-rate swap at a certain time in the future. When used as a hedge, a swaption can protect the Bank against future interest rate changes when it is planning to lend or borrow funds in the future. The Bank may enter into both payer swaptions and receiver swaptions. A payer swaption is the option to make fixed interest payments at a later date, and a receiver swaption is the option to receive fixed interest payments at a later date.

Interest-Rate Cap and Floor Agreements. In an interest-rate cap agreement, a cash flow is generated if the price or rate of an underlying variable rises above a certain threshold (or cap) price. In an interest-rate floor agreement, a cash flow is generated if the price or rate of an underlying variable falls below a certain threshold (or floor) price. Caps may be used in conjunction with liabilities, and floors may be used in conjunction with assets. Caps and floors are designed to protect against the interest rate on a variable-rate asset or liability rising above or falling below a certain level.

Types of Hedged Items

At inception, the Bank documents all relationships between derivatives designated as hedging instruments and hedged items, its risk management objectives and strategies for undertaking various hedge transactions, and its method of assessing effectiveness. This process includes linking all derivatives that are designated as fair value hedges to (1) assets and liabilities on the Statements of Condition; or (2) firm commitments. The Bank also formally assesses (both at the hedge's inception and at least quarterly on an ongoing basis) whether the derivatives that it uses in hedging relationships have been effective in offsetting changes in the fair value of hedged items attributable to the hedged risk and whether those derivatives may be expected to remain effective in future periods. The Bank uses regression analyses to assess the effectiveness of its hedges.

Consolidated Obligations. While consolidated obligations are the joint and several obligations of the FHLBanks, each FHLBank has consolidated obligations for which it is the primary obligor. The Bank enters into derivatives to hedge the interest-rate risk associated with its specific debt issuances in conjunction with the associated interest-rate risk on advances. The Bank manages the risk arising from changing market prices and volatility of a consolidated obligation by matching the cash inflow on the derivative with the cash outflow on the consolidated obligation. For instance, in a typical transaction, fixed-rate consolidated obligations are issued for the Bank, and the Bank simultaneously enters into a matching derivative in which the counterparty pays fixed cash flows to the Bank designed to mirror cash outflows that the Bank pays on the consolidated obligation in timing and amount. The Bank pays a variable cash flow that closely matches the interest payments it receives on short-term or variable-rate advances. These transactions are typically treated as fair-value hedges. This intermediation between the capital and swap markets permits the Bank to raise funds at lower costs than otherwise would be available through the issuance of simple fixed-rate consolidated obligations in the capital markets.

Advances. The Bank offers a variety of advance structures to meet members' funding needs. These advances may have maturities of up to 30 years with variable or fixed rates and may include early termination features or options. The Bank may use derivatives to adjust the repricing and/or options characteristics of advances in order to more closely match the characteristics of the Bank's funding liabilities. In general, whenever a member executes a fixed- or a variable-rate advance with embedded options, the Bank simultaneously will execute a derivative with terms that offset the terms and embedded options in the advance. For example, the Bank may hedge a fixed-rate advance with an interest-rate swap in which the Bank pays a fixed-rate coupon and receives a variable-rate coupon, effectively converting the fixed-rate advance to a variable-rate advance. This type of hedge is typically treated as a fair-value hedge.

Mortgage Assets. The Bank has invested in mortgage assets. The prepayment options embedded in mortgage assets may shorten or lengthen the expected repayment of these investments, depending on changes in estimated prepayment speeds. The Bank manages the interest-rate and prepayment risk associated with mortgages through a combination of debt issuance and derivatives. The Bank issues both callable and non-callable debt to achieve cash flow patterns and liability durations similar to those expected on the mortgage loans. The Bank may use derivatives to match the expected prepayment characteristics of the mortgages.

Options (interest-rate caps, interest-rate floors and/or options) also may be used to hedge prepayment risk on the mortgages. Many options are not identified to specific mortgages and therefore, do not receive fair-value or cash-flow hedge accounting treatment. The Bank also may purchase interest-rate caps and floors, swaptions, callable swaps, calls, and puts to minimize the prepayment risk embedded in the mortgage loans. Although these derivatives are valid non-qualifying hedges against the prepayment risk of the loans, they do not receive either fair-value or cash-flow hedge accounting. These derivatives are marked-to-market through earnings.

Firm Commitments. Certain mortgage purchase commitments are considered derivatives. Mortgage purchase commitments are recorded on the balance sheet at fair value, with changes in fair value recognized in current-period earnings. When the mortgage purchase commitment derivative settles, the current fair value of the commitment is included with the basis of the mortgage loan and amortized accordingly.

The Bank also may enter into a fair value hedge of a firm commitment for a forward starting advance through the use of an interest-rate swap. In this case, the swap functions as the hedging instrument for both the firm commitment and the subsequent advance. The basis movement associated with the firm commitment is recorded as a basis adjustment of the advance at the time the commitment is terminated and the advance is issued. The basis adjustment is then amortized into interest income over the life of the advance using the level-yield method.

Investments. The Bank invests in MBS, U.S. agency obligations, certificates of deposit, and the taxable portion of state or local housing finance agency obligations. The interest-rate and prepayment risk associated with these investment securities are managed through a combination of debt issuance and derivatives. The Bank may manage the prepayment and interest-rate risks by funding investment securities with consolidated obligations that have call features, by hedging the prepayment risk with caps or floors, or by adjusting the duration of the securities by using derivatives to modify the cash flows of the securities. Investment securities may be classified as trading, available-for-sale, or held-to-maturity.

The Bank also may manage the risk arising from changing market prices and volatility of investment securities classified as trading by entering into derivatives (non-qualifying hedges) that offset the changes in fair value of these securities.

Financial Statement Effect and Additional Financial Information

Derivative Notional Amounts. The notional amount of derivatives serves as a factor in determining periodic interest payments or cash flows received and paid. However, the notional amount of derivatives represents neither the actual amounts exchanged nor the overall exposure of the Bank to credit and market risk; the overall risk is much smaller. The risks of derivatives can be measured meaningfully on a portfolio basis that takes into account the counterparties, the types of derivatives, the items being hedged, and any offsets between the derivatives and the items being hedged.

(Dollars in millions, except per share amounts)

The following table presents the notional amount, fair value of derivative instruments, and total derivative assets and liabilities. Total derivative assets and liabilities include the effect of netting adjustments and cash collateral. For purposes of this disclosure, the derivative values include the fair value of derivatives and the related accrued interest.

	As of December 31,					
	2019			2018		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives in hedging relationships:						
Interest-rate swaps [1]	$ 73,637	$ 71	$ 221	$ 50,427	$ 32	$ 151
Derivatives not designated as hedging instruments:						
Interest-rate swaps [1]	478	5	1	1,008	3	11
Interest-rate caps or floors	7,084	—	—	8,083	1	1
Total derivatives not designated as hedging instruments	7,562	5	1	9,091	4	12
Total derivatives before netting and collateral adjustments	$ 81,199	76	222	$ 59,518	36	163
Netting adjustments and cash collateral [2]		304	(215)		278	(146)
Derivative assets and derivative liabilities		$ 380	$ 7		$ 314	$ 17

[1] Includes variation margin for daily settled contracts of $503 and $21 as of December 31, 2019 and 2018, respectively.
[2] Amounts represent the application of the netting requirements that allow the Bank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed with the same clearing agents and/or counterparty. Cash collateral posted and related accrued interest was $543 and $433 as of December 31, 2019 and 2018, respectively. Cash collateral received and related accrued interest was $25 and $9 as of December 31, 2019 and 2018, respectively.

Beginning on January 1, 2019, as a result of adopting new accounting guidance related to derivatives and hedging activities, changes in fair value of the derivative hedging instrument and the hedged item attributable to the hedged risk for designated fair value hedges are recorded in net interest income in the same line as the earnings effect of the hedged item. Prior to January 1, 2019, for fair value hedges, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedge item) was recorded in noninterest income as net (losses) gains on derivatives and hedging activities.

The following tables present the net gains (losses) on fair value hedging relationships.

	For the Year Ended December 31, 2019		
	Interest Income (Expense)		
	Advances	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes
Total interest income (expense) recorded in the Statements of Income	$ 2,451	$ (1,808)	$ (1,371)
Changes in fair value:			
Hedged items	$ 693	$ (176)	$ —
Derivatives	(682)	174	—
Net changes in fair value	11	(2)	—
Net interest settlements on derivatives [1] [2]	21	(32)	—
Amortization/accretion of active hedging relationships	(28)	—	—
Other	—	(1)	—
Total net interest income effect from fair value hedging relationships	$ 4	$ (35)	$ —

[1] Represents interest income/expense on derivatives in qualifying fair-value hedging relationships. Net interest settlements on derivatives that are not in qualifying fair-value hedging relationships are reported in other income.
[2] Excludes the interest income/expense of the respective hedged items.

(Dollars in millions, except per share amounts)

	For the Year Ended December 31, 2018 [1]		
	Advances	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes
Total interest income (expense) recorded in the Statements of Income	$ 2,227	$ (1,604)	$ (1,139)
Changes in fair value:			
Hedged items [2]	(124)	59	(2)
Derivatives	156	(58)	1
Net changes in fair value	$ 32	$ 1	$ (1)
Net effect of derivatives on net interest income	$ (20)	$ (40)	$ (2)

[1] Prior period amounts were not conformed to the new hedge accounting guidance adopted January 1, 2019.
[2] Prior period amounts do not included amortization on hedged items.

	For the Year Ended December 31, 2017 [1]		
	Advances	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes
Total interest income (expense) recorded in the Statements of Income	$ 817	$ (915)	$ (436)
Changes in fair value:			
Hedged items [2]	$ (240)	$ 99	$ (2)
Derivatives	580	(97)	3
Net changes in fair value	$ 340	$ 2	$ 1
Net effect of derivatives on net interest income	$ (254)	$ 75	$ (3)

[1] Prior period amounts were not conformed to the new hedge accounting guidance adopted January 1, 2019.
[2] Prior period amounts do not included amortization on hedged items.

The following table presents the cumulative basis adjustments on hedged items designated as fair value hedges and the related amortized cost of the hedged items.

	As of December 31, 2019			
Line Item in Statement of Conditions of Hedged Item	Amortized Cost of Hedged Asset or Liability [1]	Basis Adjustments for Active Hedging Relationships Included in Amortized Cost	Basis Adjustments for Discontinued Hedging Relationships included in Amortized Cost	Cumulative Amount of Fair Value Hedging Basis Adjustments
Advances	$ 29,984	$ 716	$ 9	$ 725
Consolidated obligations:				
Bonds	26,348	36	—	36
Discount notes	17,742	—	—	—

[1] Includes only the portion of amortized cost representing the hedged items in fair value hedging relationships.

(Dollars in millions, except per share amounts)

The following table presents net (losses) gains related to derivatives and hedging activities recorded in noninterest income on the Statements of Income. For fair value hedging relationships, the portion of net gains (losses) representing hedge ineffectiveness are recorded in noninterest income (loss) for periods prior to January 1, 2019.

	For the Years Ended December 31,		
	2019	2018	2017
Derivatives and hedged items in fair value hedging relationships:			
Interest-rate swaps	N/A [1]	$ 32	$ 343
Derivatives not designated as hedging instruments:			
Interest-rate swaps	$ (3)	1	6
Interest-rate caps or floors	(1)	—	(3)
Net interest settlements	—	—	(6)
Total net (losses) gains related to derivatives not designated as hedging instruments	(4)	1	(3)
Price alignment amount [2]	—	(4)	1
Net (losses) gains on derivatives and hedging activities	$ (4)	$ 29	$ 341

[1] Not applicable due to new hedge accounting guidance adopted January 1, 2019.
[2] This amount is for derivatives for which variation margin is characterized as daily settled contract.

Managing Credit Risk on Derivatives

The Bank is subject to credit risk to its derivative transactions due to the risk of nonperformance by counterparties and manages this risk through credit analysis, collateral requirements, and adherence to the requirements set forth in its policies, U.S. Commodity Futures Trading Commission regulations, and Finance Agency regulations.

For uncleared derivatives, the degree of credit risk depends on the extent to which master netting arrangements are included in such contracts to mitigate the risk. The Bank requires collateral agreements with collateral delivery thresholds on all uncleared derivatives. Additionally, collateral related to derivatives with member institutions includes collateral assigned to the Bank, as evidenced by a written security agreement, and held by the member institution for the benefit of the Bank.

Certain of the Bank's uncleared derivative instruments contain provisions that require the Bank to post additional collateral with its counterparties if there is deterioration in the Bank's credit rating. If the Bank's credit rating is lowered by an NRSRO, the Bank may be required to deliver additional collateral on uncleared derivative instruments in net liability positions. The aggregate fair value of all uncleared derivative instruments with credit-risk-related contingent features that were in a net liability position (before cash collateral and related accrued interest) as of December 31, 2019 was $7, for which the Bank was not required to post collateral as of December 31, 2019. If the Bank's credit ratings had been lowered from its current rating to the next lower rating, the Bank would have been required to deliver $2 of collateral at fair value to its uncleared derivative counterparties as of December 31, 2019.

For cleared derivatives, the Clearinghouse is the Bank's counterparty. The Clearinghouse notifies the clearing agent of the required initial and variation margin, and the clearing agent notifies the Bank. The Bank utilizes two Clearinghouses for all cleared derivative transactions, LCH Ltd. and CME Clearing. At both Clearinghouses, variation margin is characterized as daily settlement payments, and initial margin is considered cash collateral. Because the Bank is required to post initial and variation margin through the clearing agent to the Clearinghouse, it exposes the Bank to institutional credit risk if the clearing agent or the Clearinghouse fails to meet its obligations. The use of cleared derivatives is intended to mitigate credit risk exposure because a central counterparty is substituted for individual counterparties, and collateral/payments is posted daily through a clearing agent for changes in the fair value of cleared derivatives. The Bank has analyzed the enforceability of offsetting rights incorporated in its cleared derivative transactions and determined that the exercise of those offsetting rights by a non-defaulting party under these transactions should be upheld under applicable law upon an event of default, including a bankruptcy, insolvency, or similar proceeding involving the Clearinghouse or the Bank's clearing agent, or both. Based on this analysis, the Bank presents a net derivative receivable or payable for all of its transactions through a particular clearing agent with a particular Clearinghouse.

(Dollars in millions, except per share amounts)

The Bank presents derivative instruments and the related cash collateral that is received or pledged, plus the associated accrued interest, on a net basis by clearing agent and/or by counterparty when it has met the netting requirements.

The following table presents the fair value of derivative instruments meeting or not meeting netting requirements, including the related collateral received from or pledged to counterparties.

	As of December 31,			
	2019		2018	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
Gross recognized amount:				
Uncleared derivatives	$ 59	$ 219	$ 35	$ 128
Cleared derivatives	17	3	1	35
Total gross recognized amount	76	222	36	163
Gross amounts of netting adjustments and cash collateral:				
Uncleared derivatives	(47)	(212)	(33)	(111)
Cleared derivatives	351	(3)	311	(35)
Total gross amounts of netting adjustments and cash collateral:	304	(215)	278	(146)
Net amounts after netting adjustments and cash collateral:				
Uncleared derivatives	12	7	2	17
Cleared derivatives	368	—	312	—
Total net amounts after netting adjustments and cash collateral	380	7	314	17
Non-cash collateral received or pledged not offset- cannot be sold or repledged: (1)				
Uncleared derivatives	4	—	—	—
Cleared derivatives	—	—	—	—
Total cannot be sold or repledged (1)	4	—	—	—
Net unsecured amounts: (1)				
Uncleared derivatives	8	7	2	17
Cleared derivatives	368	—	312	—
Total net unsecured amount (1)	$ 376	$ 7	$ 314	$ 17

(1) The Bank had net credit exposure of $6 and $2 as of December 31, 2019 and 2018, respectively, due to instances where the Bank's pledged collateral to a counterparty exceeded the Bank's net derivative liability position.

Note 18—Estimated Fair Values

The Bank records trading securities, available-for-sale securities, derivative assets and liabilities, and grantor trust assets (publicly-traded mutual funds) at estimated fair value on a recurring basis. Fair value is defined under GAAP 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. The transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date, considered from the perspective of a market participant that holds the asset or owes the liability. In general, the transaction price will equal the exit price and therefore, represents the fair value of the asset or liability at initial recognition. In determining whether a transaction price represents the fair value of the asset or liability at initial recognition, each reporting entity is required to consider factors specific to the transaction, the asset or liability, the principal or most advantageous market for the asset or liability, and market participants with whom the entity would transact in the market.

A fair value hierarchy is used to prioritize the inputs of valuation techniques used to measure fair value. The inputs are evaluated, and an overall level for the fair value measurement is determined. This overall level is an indication of how market-observable the fair value measurement is and defines the level of disclosure. In order to determine the fair value or the exit price, entities must determine the unit of account, highest and best use, principal market, and market participants. These determinations allow the reporting entity to define the inputs for fair value and level of hierarchy.

Outlined below is the application of the "fair value hierarchy" to the Bank's financial assets and liabilities that are carried at fair value or disclosed in the notes to the financial statements.

Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets. An active market for the asset or liability is a market in which the transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis. The Bank carried grantor trust assets at fair value hierarchy Level 1 as of December 31, 2019 and 2018.

Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument. The Bank carried trading securities and derivatives at fair value hierarchy Level 2 as of December 31, 2019 and 2018.

Level 3 - inputs to the valuation methodology are unobservable and significant to the fair value measurement. Unobservable inputs are supported by limited market activity and reflect the entity’s own assumptions. The Bank carried available-for-sale securities at fair value hierarchy Level 3 as of December 31, 2019 and 2018.

The Bank utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs.

For financial instruments carried at fair value, the Bank reviews the fair value hierarchy classification of financial assets and liabilities on a quarterly basis. Changes in the observability of the valuation attributes may result in a reclassification of certain financial assets or liabilities within the fair value hierarchy. Such reclassifications are reported as transfers in/out at fair value as of the beginning of the quarter in which the changes occur. There were no such transfers during the periods presented.

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Estimated Fair Value Measurements on a Recurring Basis. The following tables present, for each fair value hierarchy level, the Bank's financial assets and liabilities that are measured at fair value on a recurring basis on its Statements of Condition.

	As of December 31, 2019				
	Fair Value Measurements Using				
	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral [1]	Total
Assets					
Trading securities:					
U.S. Treasury obligations	$ —	$ 1,499	$ —	$ —	$ 1,499
Government-sponsored enterprises debt obligations	—	59	—	—	59
Total trading securities	—	1,558	—	—	1,558
Available-for-sale securities:					
Private-label residential MBS	—	—	684	—	684
Derivative assets:					
Interest-rate related	—	76	—	304	380
Grantor trust (included in Other assets)	68	—	—	—	68
Total assets at fair value	$ 68	$ 1,634	$ 684	$ 304	$ 2,690
Liabilities					
Derivative liabilities:					
Interest-rate related	$ —	$ 222	$ —	$ (215)	$ 7
Total liabilities at fair value	$ —	$ 222	$ —	$ (215)	$ 7

[1] Amounts represent the application of the netting requirements that allow the Bank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed with the same clearing agents and/or counterparty.

	As of December 31, 2018				
	Fair Value Measurements Using				
	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral [1]	Total
Assets					
Trading securities:					
Government-sponsored enterprises debt obligations	$ —	$ 55	$ —	$ —	$ 55
Available-for-sale securities:					
Private-label residential MBS	—	—	865	—	865
Derivative assets:					
Interest-rate related	—	36	—	278	314
Grantor trust (included in Other assets)	52	—	—	—	52
Total assets at fair value	$ 52	$ 91	$ 865	$ 278	$ 1,286
Liabilities					
Derivative liabilities:					
Interest-rate related	$ —	$ 163	$ —	$ (146)	$ 17
Total liabilities at fair value	$ —	$ 163	$ —	$ (146)	$ 17

[1] Amounts represent the application of the netting requirements that allow the Bank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed with the same clearing agents and/or counterparty.

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The following table presents a reconciliation of available-for-sale securities that are measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

	For the Years Ended December 31,		
	2019	2018	2017
Balance, beginning of year	$ 865	$ 1,104	$ 1,345
Total (losses) gains realized and unrealized: [(1)]			
Included in net impairment losses recognized in earnings	(13)	(3)	(2)
Included in other comprehensive income	(31)	(62)	10
Accretion of credit losses in net interest income	51	62	62
Settlements	(188)	(236)	(311)
Balance, end of year	$ 684	$ 865	$ 1,104

[(1)] Related to available-for-sale securities held at year end.

Described below are the Bank's fair value measurement methodologies for financial assets and liabilities that are measured at fair value on a recurring or nonrecurring basis on the Statements of Condition and categorized within Level 2 and Level 3 of the fair value hierarchy.

Investment securities. The Bank obtains prices from multiple designated third-party pricing vendors, when available, to estimate the fair value of its investment securities. The pricing vendors use various proprietary models to price investment securities. The inputs to those models are derived from various sources including, but not limited to, the following: benchmark yields, reported trades, dealer estimates, issuer spreads, benchmark securities, bids, offers, and other market-related data. Since many investment securities do not trade on a daily basis, the pricing vendors use available information as applicable, such as benchmark curves, benchmarking of like securities, sector groupings, and matrix pricing to determine the prices for individual securities. Each pricing vendor has an established challenge process in place for all investment securities valuations, which facilitates resolution of potentially erroneous prices identified by the Bank.

The Bank periodically conducts reviews of its pricing vendors to confirm and further augment its understanding of the vendors' pricing processes, methodologies, and control procedures for U.S. agency and private-label MBS.

The Bank's valuation technique for estimating the fair value of its investment securities first requires the establishment of a "median" price for each security.

All prices that are within a specified tolerance threshold of the median price are included in the "cluster" of prices that are averaged to compute a "resultant" price. All prices that are outside the threshold ("outliers") are subject to further analysis (including, but not limited to, comparison to prices provided by an additional third-party valuation service, prices for similar securities, and/or non-binding dealer estimates) to determine if an outlier is a better estimate of fair value. If an outlier (or some other price identified in the analysis) is determined to be a better estimate of fair value, then the outlier (or the other price as appropriate) is used as the final price rather than the resultant price. Alternatively, if the analysis does not provide evidence that an outlier is more representative of the fair value, and the resultant price is the best estimate, then the resultant price is used as the final price. In all cases, the final price is used to determine the fair value of the security.

If all prices received for a security are outside the tolerance threshold level of the median price, then there is no resultant price, and the final price is determined by an evaluation of all outlier prices as described above.

Multiple third-party vendor prices were received for a majority of the Bank's investment securities holdings, and the final prices for those securities were computed by averaging the prices received as of December 31, 2019 and 2018. Based on the Bank's review of the pricing methods and controls employed by the third-party pricing vendors and the relative lack of dispersion among the vendor prices (or the Bank's additional analysis in those instances in which there were outliers or significant yield variances), the Bank believes that its final prices are representative of the prices that would have been received if the assets had been sold at the measurement date (i.e., exit prices) and further, that the fair value measurements are classified appropriately in the fair value hierarchy. Based on the lack of significant market activity for private-label MBS, the fair value measurement for those securities were classified as Level 3 within the fair value hierarchy as of December 31, 2019 and 2018.

Derivative assets and liabilities. The Bank calculates the fair values of interest-rate related derivatives using a discounted cash flow analysis which utilizes market-observable inputs. The significant assumptions used in this model are based on management's best estimate of discount rates, market indices, and market volatility. The inputs for interest-rate related derivatives uses the OIS curve for collateralized derivatives.

Derivative instruments are transacted primarily in the institutional dealer market and priced with observable market assumptions at a mid-market valuation point. The Bank does not provide a credit valuation adjustment based on aggregate exposure by derivative counterparty when measuring the fair value of its derivatives. This is because the collateral provisions pertaining to the Bank's derivatives obviate the need to provide such a credit valuation adjustment. The fair values of the Bank's derivatives take into consideration the effects of legally enforceable master netting agreements, where applicable, that allow the Bank to settle positive and negative positions and offset cash collateral with the same counterparty on a net basis. The Bank and each uncleared derivative counterparty have collateral thresholds that take into account both the Bank's and the counterparty's credit ratings. As a result of these practices and agreements, the Bank has concluded that the impact of the credit differential between the Bank and its derivative counterparties was mitigated to an immaterial level, and no further adjustments were deemed necessary to the recorded fair values of derivative assets and liabilities on the Statements of Condition as of December 31, 2019 and 2018.

The following estimated fair value amounts have been determined by the Bank using available market information and the Bank's best judgment of appropriate valuation methods. These estimates are based on pertinent information available to the Bank as of December 31, 2019 and 2018. Although the Bank uses its best judgment in estimating the fair values of these financial instruments, there are inherent limitations in any estimation technique or valuation methodology. For example, because an active secondary market does not exist for a portion of the Bank's financial instruments, in certain cases, fair values are not subject to precise quantification or verification and may change as economic and market factors and evaluation of those factors change. Therefore, these estimated fair values are not necessarily indicative of the amounts that would be realized in current market transactions although they do reflect the Bank's judgment of how a market participant would estimate the fair value. The fair value tables presented below do not represent an estimate of the overall fair value of the Bank as a going concern, which would take into account future business opportunities and the net profitability of assets versus liabilities.

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

	As of December 31, 2019					
		Estimated Fair Value				
	Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral [1]
Assets:						
Cash and due from banks	$ 911	$ 911	$ 911	$ —	$ —	$ —
Interest-bearing deposits	3,810	3,810	—	3,810	—	—
Securities purchased under agreements to resell	8,800	8,800	—	8,800	—	—
Federal funds sold	9,826	9,826	—	9,826	—	—
Trading securities	1,558	1,558	—	1,558	—	—
Available-for-sale securities	684	684	—	—	684	—
Held-to-maturity securities	25,939	25,903	—	25,711	192	—
Advances	97,167	97,365	—	97,365	—	—
Mortgage loans held for portfolio, net	296	324	—	324	—	—
Accrued interest receivable	259	259	—	259	—	—
Derivative assets	380	380	—	76	—	304
Grantor trust assets (included in Other assets)	68	68	68	—	—	—
Liabilities:						
Interest-bearing deposits	1,492	1,492	—	1,492	—	—
Consolidated obligations, net:						
Discount notes	52,134	52,138	—	52,138	—	—
Bonds	88,503	88,764	—	88,764	—	—
Mandatorily redeemable capital stock	1	1	1	—	—	—
Accrued interest payable	212	212	—	212	—	—
Derivative liabilities	7	7	—	222	—	(215)

[1] Amounts represent the application of the netting requirements that allow the Bank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed with the same clearing agents and/or counterparty.

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

	As of December 31, 2018					
		Estimated Fair Value				
	Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral (1)
Assets:						
Cash and due from banks	$ 35	$ 35	$ 35	$ —	$ —	$ —
Interest-bearing deposits	6,782	6,782	—	6,782	—	—
Securities purchased under agreements to resell	3,750	3,750	—	3,750	—	—
Federal funds sold	8,978	8,978	—	8,978	—	—
Trading securities	55	55	—	55	—	—
Available-for-sale securities	865	865	—	—	865	—
Held-to-maturity securities	23,879	23,846	—	23,428	418	—
Advances	108,462	108,448	—	108,448	—	—
Mortgage loans held for portfolio, net	360	374	—	374	—	—
Loan to another FHLBank	500	500	—	500	—	—
Accrued interest receivable	295	295	—	295	—	—
Derivative assets	314	314	—	36	—	278
Grantor trust assets (included in Other assets)	52	52	52	—	—	—
Liabilities:						
Interest-bearing deposits	1,176	1,176	—	1,176	—	—
Consolidated obligations, net:						
Discount notes	66,025	66,014	—	66,014	—	—
Bonds	79,114	79,086	—	79,086	—	—
Mandatorily redeemable capital stock	1	1	1	—	—	—
Accrued interest payable	204	204	—	204	—	—
Derivative liabilities	17	17	—	163	—	(146)

(1) Amounts represent the application of the netting requirements that allow the Bank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed with the same clearing agents and/or counterparty.

Note 19—Commitments and Contingencies

Consolidated obligations are backed only by the financial resources of the FHLBanks. At any time, the Finance Agency may require any FHLBank to make principal or interest payments due on any consolidated obligation, whether or not the primary obligor FHLBank has defaulted on the payment of that obligation. No FHLBank has ever had to assume or pay the consolidated obligation of another FHLBank.

The par value of the other FHLBanks' outstanding consolidated obligations for which the Bank is jointly and severally liable was $885,114 and $886,081 as of December 31, 2019 and 2018, respectively, exclusive of the Bank's own outstanding consolidated obligations. None of the other FHLBanks defaulted on their consolidated obligations, the Finance Agency was not required to allocate any obligation among the FHLBanks, and no amount of the joint and several obligation was fixed as of December 31, 2019 and 2018. Accordingly, the Bank has not recognized a liability for its joint and several obligation related to the other FHLBanks' consolidated obligations as of December 31, 2019 and 2018.

FEDERAL HOME LOAN BANK OF ATLANTA
NOTES TO FINANCIAL STATEMENTS
(Dollars in millions, except per share amounts)

The following table presents the Bank's outstanding commitments, which represent off-balance sheet obligations.

	As of December 31,					
	2019			2018		
	Expire Within One Year	Expire After One Year	Total	Expire Within One Year	Expire After One Year	Total
Standby letters of credit [(1)]	$ 8,532	$ 23,973	$ 32,505	$ 12,334	$ 17,974	$ 30,308
Commitments to fund additional advances	—	—	—	48	—	48
Unsettled consolidated obligation bonds, at par [(2)]	—	—	—	640	—	640
Unsettled consolidated obligation discount notes, at par [(2)]	2,000	—	2,000	750	—	750

(1) "Expire Within One Year" includes 13 standby letters of credit for a total of $36 and 14 standby letters of credit for a total of $37 as of December 31, 2019 and 2018, respectively, which have no stated maturity date and are subject to renewal on an annual basis.
(2) Expiration is based on settlement period rather than underlying contractual maturity of consolidated obligations.

The Bank issues standby letters of credit on behalf of its members to support certain obligations of the members to third-party beneficiaries. Standby letters of credit may be offered to assist members in facilitating residential housing finance, community lending, and asset-liability management, and to provide liquidity. In particular, members often use standby letters of credit as collateral for deposits from federal and state government agencies. Standby letters of credit are executed for members for a fee. If the Bank is required to make a payment for a beneficiary's draw, the member either reimburses the Bank for the amount drawn or, subject to the Bank's discretion, the amount drawn may be converted into a collateralized advance to the member and will require a corresponding activity-based capital stock purchase. However, standby letters of credit usually expire without being drawn upon.

The Bank monitors the creditworthiness of its standby letters of credit based on an evaluation of the member. In addition, standby letters of credit are fully collateralized from the time of issuance. The Bank has established parameters for the measurement, review, classification, and monitoring of credit risk related to these standby letters of credit that result in an internal credit rating, which focuses primarily on an institution's overall financial health and takes into account the quality of assets, earnings, and capital position. In general, borrowers categorized into the highest risk rating category have more restrictions on the types of collateral that they may use to secure standby letters of credit, may be required to maintain higher collateral maintenance levels and deliver loan collateral, and may face more stringent collateral reporting requirements.

The carrying value of the guarantees related to standby letters of credit is recorded in "Other liabilities" on the Statements of Condition and amounted to $117 and $102 as of December 31, 2019 and 2018, respectively. Based on the Bank's credit analyses and collateral requirements, the Bank does not deem it necessary to record any additional liability on the Statements of Condition for these commitments.

The Bank's operating expenses include net rental costs of $1 for each of the years ended December 31, 2019, 2018, and 2017. Lease agreements for Bank premises generally provide for increases in the basic rentals resulting from increases in property taxes and maintenance expenses. Such increases are not expected to have a material effect on the Bank's results of operations.

The Bank is subject to legal proceedings arising in the normal course of business. After consultation with legal counsel, management does not anticipate, as of the date of the financial statements, that the ultimate liability, if any, arising out of these matters will have a material effect on the Bank's financial condition or results of operations.

(Dollars in millions, except per share amounts)

Note 20—Transactions with Shareholders

The Bank is a cooperative whose member institutions own substantially all of the capital stock of the Bank. Former members and certain non-members, which own the Bank's capital stock as a result of a merger or acquisition of a member of the Bank, own the remaining capital stock to support business transactions still carried on the Bank's Statements of Condition. All holders of the Bank's capital stock receive dividends on their investments, to the extent declared by the Bank's board of directors. All advances are issued to members and eligible housing associates under the FHLBank Act, and mortgage loans held for portfolio are purchased from members. The Bank also maintains demand deposit accounts primarily to facilitate settlement activities that are related directly to advances and mortgage loan purchases. Transactions with any member that has an officer or director who is also a director of the Bank are subject to the same Bank policies as transactions with other members.

Related Parties. In accordance with GAAP, financial statements are required to disclose material related-party transactions other than compensation arrangements, expense allowances, or other similar items that occur in the ordinary course of business. Under GAAP, related parties include owners of more than 10 percent of the voting interests of the Bank. Due to limits on member voting rights under the FHLBank Act and Finance Agency regulations, no member owned more than 10 percent of the total voting interests. Therefore, the Bank had no such related party transactions required to be disclosed for the periods presented.

Shareholder Concentrations. The Bank considers shareholder concentration as members or non-members with regulatory capital stock outstanding in excess of 10 percent of the Bank's total regulatory capital stock. The following tables present transactions with shareholders whose holdings of regulatory capital stock exceed 10 percent of total regulatory capital stock outstanding.

	As of December 31, 2019					
	Regulatory Capital Stock Outstanding	Percent of Total Regulatory Capital Stock Outstanding	Par Value of Advances	Percent of Total Par Value of Advances	Interest-bearing Deposits	Percent of Total Interest-bearing Deposits
Truist Bank	$ 760	15.24	$ 17,537	18.18	$ —	—

	As of December 31, 2018					
	Regulatory Capital Stock Outstanding	Percent of Total Regulatory Capital Stock Outstanding	Par Value of Advances	Percent of Total Par Value of Advances	Interest-bearing Deposits	Percent of Total Interest-bearing Deposits
Bank of America, National Association	$ 855	15.58	$ 19,759	18.23	$ —	0.01
Navy Federal Credit Union	570	10.39	13,058	12.04	—	0.04

Note 21—Transactions with Other FHLBanks

The Bank's activities with other FHLBanks are summarized below.

Loans to and Borrowings from Other FHLBanks. Occasionally, the Bank loans short-term funds to or borrows short-term funds from the other FHLBanks. There were no outstanding loans to or borrowings from the other FHLBanks as of December 31, 2019. There was a $500 loan outstanding to FHLBank Des Moines and no outstanding borrowings from other FHLBanks as of December 31, 2018. Interest income on loans to and interest expense on borrowings from the other FHLBanks were not material during each of the years ended December 31, 2019, 2018, and 2017.

(Dollars in millions, except per share amounts)

The following table presents the cash flow activities for loans to and borrowings from other FHLBanks.

	For the Years Ended December 31,		
	2019	2018	2017
Investing activities:			
Loans to other FHLBanks	$ (2,600)	$ (1,000)	$ (950)
Principal collected on loans to other FHLBanks	3,100	700	750
Net change in loans to other FHLBanks	$ 500	$ (300)	$ (200)
Financing activities:			
Proceeds from short-term borrowings from other FHLBanks	$ 2,078	$ 660	$ 500
Payments of short-term borrowings from other FHLBanks	(2,078)	(660)	(500)
Net change in borrowings from other FHLBanks	$ —	$ —	$ —

Mortgage Loan Purchases of Participation Interests from Other FHLBanks. In December 2016, the Bank agreed to purchase a 90 percent participating interest in a $100 master commitment of certain newly acquired mortgage loans from the FHLBank Indianapolis. The Bank's outstanding balance related to these mortgage loans was $69 and $78 as of December 31, 2019 and 2018, respectively.

Note 22— Subsequent Events

Subsequent to December 31, 2019, the Bank made the decision to sell, and on January 14, 2020, the Bank executed a sale of all of its private-label MBS (par value of $958 as of the date of the sale). A net realized gain of approximately $85 associated with the sale will be recorded in the first quarter of 2020.

On January 31, 2020, the Bank's board of directors approved a cash dividend for the fourth quarter of 2019. The Bank paid the fourth quarter 2019 dividend on February 4, 2020, in the amount of $76.

Supplementary Financial Information (Unaudited)

Selected Quarterly Financial Data

The following tables present supplementary financial information for each quarter in the years ended December 31, 2019 and 2018 (in millions).

	For the Year Ended December 31, 2019				
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter	Total
Interest income	$ 840	$ 913	$ 999	$ 988	$ 3,740
Interest expense	699	795	867	844	3,205
Net interest income	141	118	132	144	535
Noninterest income	3	5	4	7	19
Noninterest expense	36	39	32	39	146
Affordable Housing Program assessment	11	8	11	11	41
Net income	$ 97	$ 76	$ 93	$ 101	$ 367

	For the Year Ended December 31, 2018				
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter	Total
Interest income	$ 958	$ 873	$ 809	$ 683	$ 3,323
Interest expense	806	730	678	548	2,762
Net interest income	152	143	131	135	561
Noninterest (expense) income	(16)	19	21	27	51
Noninterest expense	38	44	33	35	150
Affordable Housing Program assessment	10	11	12	13	46
Net income	$ 88	$ 107	$ 107	$ 114	$ 416

Investment Portfolio

The following table presents supplementary financial information on the Bank’s investments (dollars in millions).

	As of December 31,						
	2019					2018	2017
	Due in one year or less	Due after one year through five years	Due after five through 10 years	Due after 10 years	Total		
Interest-bearing deposits	$ 3,810	$ —	$ —	$ —	$ 3,810	$ 6,782	$ 2,176
Securities purchased under agreements to resell	8,800	—	—	—	8,800	3,750	2,500
Federal funds sold	9,826	—	—	—	9,826	8,978	9,380
Trading securities:							
U.S. Treasury obligations	—	1,499	—	—	1,499	—	—
Government-sponsored enterprises debt obligations	—	59	—	—	59	55	56
Total trading securities	—	1,558	—	—	1,558	55	56
Available-for-sale securities:							
Private-label residential MBS	—	1	—	683	684	865	1,104
Held-to-maturity securities:							
State and local housing agency debt obligations	—	—	1	—	1	1	1
Government-sponsored enterprises debt obligations	1,202	3,035	200	60	4,497	2,672	5,350
Mortgage-backed securities:							
U.S. agency obligations-guaranteed residential	—	1	5	83	89	118	157
Government-sponsored enterprises residential	—	26	87	8,529	8,642	9,304	9,357
Government-sponsored enterprises commercial	51	1,739	10,612	116	12,518	11,368	9,729
Private-label residential	2	—	—	190	192	416	568
Total held-to-maturity securities	1,255	4,801	10,905	8,978	25,939	23,879	25,162
Total investment securities	1,255	6,360	10,905	9,661	28,181	24,799	26,322
Total investments	$ 23,691	$ 6,360	$ 10,905	$ 9,661	$ 50,617	$ 44,309	$ 40,378
Yield on trading securities	—	1.68%	—	—			
Yield on available-for-sale securities	5.00%	5.94%	—	5.24%			
Yield on held-to-maturity securities	1.81%	1.94%	1.94%	2.26%			
Yield on total investment securities	1.81%	1.88%	1.94%	2.46%			

The U.S. government and GSEs were the only issuers whose securities exceeded 10 percent of the Bank's total capital at December 31, 2019.

Loan Portfolio

The following table presents the Bank's outstanding domestic loans, nonaccrual loans, loans 90 days or more past due and accruing interest, and restructured loans (in millions).

	As of December 31,				
	2019	2018	2017	2016	2015
Advances	$ 97,167	$ 108,462	$ 102,440	$ 99,077	$ 104,168
Real estate mortgages	$ 297	$ 361	$ 436	$ 524	$ 586
Nonaccrual real estate mortgages, unpaid principal balance	$ 5	$ 6	$ 11	$ 11	$ 18
Real estate mortgages past due 90 days or more and still accruing interest, unpaid principal balance (1)	$ —	$ —	$ —	$ 1	$ 3
Troubled debt restructurings, unpaid principal balance (not included above) (2)	$ 7	$ 8	$ 9	$ 10	$ 13
Interest contractually due during the year	$ —				
Interest actually received during the year	$ —				

(1) Only government loans (e.g., FHA, VA) continue to accrue interest after 90 days or more delinquent.
(2) Represents troubled debt restructured loans that are still performing as of year end.

The Bank places a conventional mortgage loan on nonaccrual status when the collection of the contractual principal or interest from the borrower is 90 days or more past due.

Summary of Loan Loss Experience

The following table presents the allowance for credit losses on domestic conventional residential mortgage loans (dollars in millions).

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
Balance, beginning of year	$ 1	$ 1	$ 1	$ 2	$ 3
Reversal of provision for credit losses	—	—	—	(1)	(1)
Balance, end of year	$ 1	$ 1	$ 1	$ 1	$ 2
Ratio of net charge-offs during the year to average loans outstanding during the year (in basis points)	—	3	4	2	4

Short-term Borrowings

Borrowings with original maturities of one year or less are classified as short-term. The following table presents information regarding the Bank's short-term borrowings (dollars in millions).

	As of and for the Years Ended December 31,		
	2019	2018	2017
Consolidated obligation discount notes:			
Amount outstanding at the end of the year	$ 52,134	$ 66,025	$ 50,139
Weighted average interest rate at the end of the year	1.64%	2.33%	1.21%
Daily average outstanding for the year	$ 59,736	$ 60,847	$ 48,676
Weighted average interest rate for the year	2.29%	1.87%	0.90%
Maximum amount outstanding at any month-end during the year	$ 73,642	$ 70,108	$ 56,059
Consolidated obligation bonds:			
Amount outstanding at the end of the year	$ 64,675	$ 30,618	$ 33,392
Weighted average interest rate at the end of the year	1.74%	2.33%	1.31%
Daily average outstanding for the year	$ 43,592	$ 33,428	$ 32,213
Weighted average interest rate for the year	2.19%	2.31%	0.90%
Maximum amount outstanding at any month-end during the year	$ 70,983	$ 37,806	$ 43,230

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

The Bank's President and Chief Executive Officer and the Bank's Senior Vice President and Chief Financial Officer (Certifying Officers) are responsible for establishing and maintaining a system of disclosure controls and procedures designed to ensure that information required to be disclosed by the Bank in the reports filed or submitted under the Exchange Act, is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer's management, including its Certifying Officers, as appropriate, to allow timely decisions regarding required disclosure.

As of December 31, 2019, the Bank's management, with the participation of the Certifying Officers, has evaluated the effectiveness of the design and operation of its disclosure controls and procedures. Based on that evaluation, the Certifying Officers have concluded that the Bank's disclosure controls and procedures (as defined in Rules 13a-15(a) and 15d-15(e) under the Exchange Act) were effective to provide reasonable assurance that information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act (1) is accumulated and communicated to the Bank's management, including the Certifying Officers, as appropriate, to allow timely decisions regarding required disclosure; and (2) is recorded, processed, summarized, and reported within the time periods specified in the SEC rules and forms.

In designing and evaluating the Bank's disclosure controls and procedures, the Bank's Certifying Officers recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

Management's Report on Internal Control Over Financial Reporting

The Bank's management is responsible for establishing and maintaining adequate internal control over financial reporting for the Bank, as defined in Rule 13a-15(f) under the Exchange Act. The Bank's management assessed the effectiveness of the Bank's internal control over financial reporting as of December 31, 2019. In making this assessment, the Bank's management utilized the criteria set forth by COSO in *Internal Control-Integrated Framework (2013)*. Based upon that evaluation, management has concluded that the Bank's internal control over financial reporting was effective as of December 31, 2019.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate. The effectiveness of the Bank's internal control over financial reporting as of December 31, 2019, has been audited by PricewaterhouseCoopers LLP (PwC), an independent registered public accounting firm, as stated in their report which appears within.

Changes in Internal Control Over Financial Reporting

During the fourth quarter of 2019, there were no changes in the Bank's internal control over financial reporting that have affected materially, or are reasonably likely to affect materially, the Bank's internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Directors

The FHLBank Act provides that an FHLBank's board of directors is to comprise 13 directors, or such other number as the Director determines appropriate. For 2020, the Director has designated 14 directorships for the Bank, eight of which are member directorships and six of which are independent directorships.

All individuals serving as Bank directors must be United States citizens. At least a majority of the directors must be member directors and not less than two-fifths must be independent directors. Under the FHLBank Act, as amended by the Housing Act, and Finance Agency regulations, the term of office of each director is four years, subject to certain adjustments to achieve a staggered board. Any director that has been elected to three consecutive full terms is not eligible for election to directorship for any term that begins within two years of the expiration of the third term.

The board of directors does not solicit proxies, nor are member institutions permitted to solicit or use proxies in order to cast their votes in an election.

Member Directors

Candidates for member directorships in a particular state are nominated by members in that state. FHLBank Boards are not permitted to nominate or elect member directors, except for vacant member directorships. Finance Agency regulations require that:

- a member directorship be held only by an officer or director of a member institution located within the Bank's district;
- the member institution meet all minimum capital requirements established by its regulator(s); and
- the member institution be a member as of the record date established for the election of the member director.

The Bank is not permitted to establish additional eligibility criteria or qualifications for member directorships. With respect to member directors, under Finance Agency regulations, no director, officer, employee, attorney, or agent of the Bank (except in his/her personal capacity) may, directly or indirectly, support the nomination or election of a particular individual for a member directorship.

For each member director position to be filled, an eligible member in that state may cast one vote for each share of capital stock it was required to hold as of the record date, except that an eligible member's votes for each member director position to be filled may not exceed the average number of shares of capital stock required to be held by all of the members in that state as of the record date.

The regulations permit, but do not require, the board of directors to conduct an annual assessment of the skills and experience possessed by the members of its board of directors as a whole and to determine whether the capabilities of the board would be enhanced through the addition of individuals with particular skills and experience. The Bank may identify those qualifications and so inform the members as part of its election notification process, but the Bank may not exclude a member director candidate from the election ballot on the basis of such qualifications. In 2019, the board of directors conducted an assessment of its directors, but did not identify any particular qualifications as part of its 2019 election notification process.

Independent Directors

Candidates for independent directorships are nominated by the Bank's board of directors. Finance Agency regulations require that an independent directorship be held only by an individual:

- who is a bona fide resident of the Bank's district;
- who is not a director, officer, or employee of a member institution or of any recipient of advances from the Bank; and
- who is not an officer of any FHLBank.

At least two of the independent directors must be public interest directors. Finance Agency regulations define a public interest independent director as someone having more than four years of experience representing consumer or community interests in banking services, credit needs, housing or consumer financial protection. The other independent directors must have experience in, or knowledge of, one or more of the following areas: auditing and accounting, derivatives, financial management, organizational management, project development, risk management practices, and the law.

Any individual may submit an application form and request to be considered by the Bank to be an independent director candidate. Before nominating any individual for an independent directorship, other than for a public interest directorship, the Board must determine that the candidate's knowledge or experience is commensurate with that needed to oversee a financial institution with a size and complexity that is comparable to the Bank's. Finance Agency regulations require the board to consult with the Bank's Affordable Housing Advisory Council with respect to the independent directorship candidates. Further, the Bank must submit information about independent directorship candidates to the Finance Agency for its review prior to their nomination. After the independent director candidates are nominated by the board, the candidates are then presented to the Bank's membership for a district-wide vote. Finance Agency regulations permit the Bank's directors, officers, attorneys, employees, agents, and Advisory Council members to support the candidacy of the board's candidates for independent directorships.

For independent directorships, candidates are elected on a district-wide basis, with the candidate receiving the most votes being declared the winner. Candidates running unopposed must receive at least 20 percent of the number of votes eligible to be cast. If an unopposed candidate receives less than 20 percent of eligible votes, a new election must be conducted.

Board Vacancies

When the board has a vacancy, Finance Agency regulations require the board to elect a director to fill the vacancy by a majority vote of the remaining directors.

The Bank has determined that all directors meet the regulatory eligibility requirements for directors. Because of the laws and regulations governing member directorship elections that are described above, the Bank is not in a position to know what specific factors the Bank's member institutions may consider in selecting member director candidates or electing member directors. For the Bank's independent directors and the directors who hold their current directorship due to vacancy and appointment by the board, the board considered the experience, qualifications, attributes or skills described in the biographical paragraphs provided below in determining to nominate or appoint that person as a director for the Bank. In addition, the board has at times considered the importance of maintaining a continuity of relevant knowledge, leadership and experience on the board and diversity the candidate would bring to the board when nominating or appointing a candidate.

The following table presents information regarding each of the Bank's directors, and all persons nominated or chosen to become directors, as of the date of this Report. Except as otherwise indicated, each director has been engaged in the principal occupation described below for at least five years. No director has any family relationship with any other director or executive officer of the Bank.

Name	Age	Director Since	Expiration of Current Term as Director	Board Committees
Brian E. Argrett[(1)]	56	2016	12/31/2021	(5)(7)(8)(9)
Travis Cosby, III[(1)]	61	2014	12/31/2021	(5)(7)(8)(9)
Suzanne S. DeFerie[(1)]	63	2015	12/31/2020	(5)(7)(8)(9)
R. Thornwell Dunlap, III[(1)]	62	2016	12/31/2023	(5)(7)(8)(10)
F. Gary Garczynski[(2)(3)]	73	2007	12/31/2020	(6)(8)(10)(11)
William C. Handorf[(2)]	75	2007	12/31/2023	(5)(6)(8)(9)
Scott C. Harvard[(1)(4)]	65	2017	12/31/2020	(6)(8)(10)(11)
Jonathan Kislak[(2)]	71	2008	12/31/2022	(7)(8)(9)(11)
LaSalle D. Leffall, III[(2)]	57	2007	12/31/2020	(5)(7)(8)(10)
Kim C. Liddell[(1)]	59	2015	12/31/2022	(6)(8)(9)(11)
Garrett S. Richter[(1)]	69	2019	12/31/2022	(6)(8)(10)(11)
John B. Rucker[(2)]	68	2017	12/31/2023	(6)(8)(10)(11)
Robert L. Strickland, Jr.[(2)(3)(4)]	68	2007	12/31/2021	(12)
Richard A. Whaley[(1)]	60	2013	12/31/2022	(13)

(1) Member Director
(2) Independent Director
(3) Public Interest Director
(4) Mr. Harvard previously served as a director from 2003-2012. Mr. Strickland previously served as a director from 2002-2004.
(5) Member of Audit Committee
(6) Member of Credit and Member Services Committee
(7) Member of Enterprise Risk and Operations Committee
(8) Member of Executive Committee
(9) Member of Finance Committee
(10) Member of Governance and Compensation Committee
(11) Member of Housing and Community Investment Committee
(12) Vice chairman of Executive Committee and ex officio member of all board committees
(13) Chairman of Executive Committee and ex officio member of all board committees

Chairman of the board, *Richard A. Whaley*, has served as president, chief executive officer, and director of Citizens Bank of Americus in Americus, Georgia, since 2001. From 1989 to 2001, he served as market manager and commercial lender for Wachovia Bank. Mr. Whaley served as chairman of the Georgia Bankers Association from October 2010 to June 2012. Mr. Whaley also served as chairman of the South Georgia Technical College Foundation from 2008 to 2010. He currently serves as chairman of the Georgia Bankers Association Insurance Trust, Inc. and is a veteran of the U.S. Army. He currently serves as chairman of the Executive Committee and ex officio member of the other committees of the Bank's board.

Vice chairman of the board, *Robert L. Strickland, Jr.* is executive director of the Alabama Housing Finance Authority, an independent public corporation dedicated to serving the housing needs of low- and moderate-income Alabamians, a position he has held since 1987. Mr. Strickland served as president of the National Council of State Housing Agencies for two terms. He has also served on the National Association of Home Builders Mortgage Finance Roundtable and as a member of Fannie Mae's National Advisory Council. He currently serves as a director of the Alabama MultiFamily Loan Consortium. He currently serves as vice chairman of the Executive Committee and ex officio member of the other committees of the Bank's board. Mr. Strickland's experience in affordable housing finance supported his nomination as a public interest director.

Brian E. Argrett has served as president, chief executive officer, and director of City First Bank of DC since 2011. Previously, Mr. Argrett was founder and managing partner of both Fulcrum Capital Group and Fulcrum Capital Partners, L.P. from 1992 to 2011. He served as president, chief executive officer, and director of Fulcrum Venture Capital Corporation, a federally licensed and regulated Small Business Investment Company, from 1992 to 2011. He currently serves as chairman of the boards of directors of City First Enterprises, a nonprofit bank holding company, and City First Foundation. Mr. Argrett also served as presidential appointee to the Community Development Advisory Board, former chairman of the Community Development Bankers Association, and director of the Washington DC Economic Partnership. From 2006-2009, Mr. Argrett served on the audit committee of First Federal Financial Corp. (NYSE- FED). He currently serves as chairman of the Enterprise Risk and Operations Committee of the Bank's board.

Travis Cosby, III has served as chairman of the board of First Community Bank of Central Alabama in Wetumpka, Alabama, since January 1, 2013, having previously served as president from 2001 to 2011 as well as chief executive officer from 2004 to 2012. He has over 30 years of banking experience and served in operations, lending, investment portfolio management, and funds management positions. He worked at Union Planters Bank from 1998 to 2001, achieving the title of city president, after rising to executive vice president during his tenure at First National Bank of Wetumpka from 1982 to 1998. From 1980 to 1982, Mr. Cosby worked at Jackson Thornton and Co., CPAs. He earned a B.S. in accounting from Auburn University, and became a certified public accountant in June 1982. Mr. Cosby is a past chairman and current Chairman's Council member of the Alabama Bankers Association, Inc. He currently serves as chairman of the Audit Committee of the Bank's board.

Suzanne S. DeFerie has served as a member of the board of directors of First Bank, a subsidiary of First Bancorp in Southern Pines, North Carolina (NASDAQ-FBNC) since October 1, 2017. She served as president and chief executive officer of Asheville Savings Bank, S.S.B. in Asheville, North Carolina, from 2008 and its holding company, ASB Bancorp, Inc. (NASDAQ-ASBB), from 2011 until October 1, 2017, when the bank and holding company were acquired by First Bancorp. Ms. DeFerie also serves a member of the board of directors for First Bancorp. Prior to becoming president and chief executive officer of Asheville Savings Bank and ASB Bancorp, Inc., Ms. DeFerie was executive vice president and chief financial officer of Asheville Savings Bank for 16 years. She currently serves as chairman of the Finance Committee of the Bank's board.

R. Thornwell Dunlap, III has served as president and chief executive officer of Countybank since 1995 and chairman of its holding company, TCB Corporation, since 2001. He has served on the South Carolina Bankers Association Board of Directors since 2016 and is a past chairman of the Independent Banks of South Carolina Board of Directors. Mr. Dunlap also serves on the Greenwood Partnership Alliance Board of Directors and Executive Committee and is a past chairman. Mr. Dunlap served on the Piedmont Technical College Foundation Board of Directors from 1995 to 2004, and returned to serve in 2010 to present. He has served on the Ten at the Top Board of Directors since 2009 and is a founding director. Mr. Dunlap is a member and past chairman of the Greenwood Rotary Club. He currently serves as chairman of the Governance and Compensation Committee of the Bank's board.

F. Gary Garczynski, has served as the president of National Capital Land and Development, Inc., a construction and real estate development company in Woodbridge, Virginia, since 1997. Mr. Garczynski served as chairman of the National Housing Endowment from 2004 to 2010 and continues to serve on its executive committee. He previously served as the 2002 President of the National Association of Home Builders (NAHB). Mr. Garczynski serves as a Senior Life Director of NAHB, a Life Director of the Home Builders Association of Virginia, and a Senior Life Director of the Northern Virginia Building Industry Association. He also is a member of the Prince William County, Virginia, Affordable Housing Task Force and a three-term appointee to the Virginia Housing Commission. Mr. Garczynski serves a gubernatorial appointment through 2018 as vice chairman of the Commonwealth Transportation Board and has previously served as a director on the Northern Virginia Transportation Authority. He currently serves as vice chairman of the Housing and Community Investment Committee of the Bank's board. Mr. Garczynski's public interest experience in housing, affordable housing and housing policy supported his nomination as a public interest director.

William C. Handorf, Ph.D. has served as a professor of finance and real estate at The George Washington University's School of Business in Washington, D.C. since 1975. From 2001 to 2006, Mr. Handorf served as a director of the Federal Reserve Bank of Richmond's Baltimore branch, including two years as chair. From 1992 to 1995, Mr. Handorf served as a private citizen director of the FHLBanks Office of Finance. He currently serves as vice chairman of the Finance Committee of the Bank's board. Mr. Handorf's experience in derivatives/hedging, affordable housing, large commercial banks, and information technology supported his nomination as an independent director.

Scott C. Harvard has served as president, chief executive officer and director of First National Corporation (OTC - FXNC) since 2011. He served as president, chief executive officer and director of First Bank from 2011 to 2015 and has served as chief executive officer and director of First Bank since 2015. He previously served as a director of the Bank from 2003 to 2012, serving as chairman from 2007-2012. Mr. Harvard served as president, chief executive officer and as a director of Shore Bank from 1985 to 2008 and as president, chief executive officer and director of its parent, Shore Financial Corporation, from 1997 to 2008. He served as executive vice president and director of Hampton Roads Bankshares from 2008 to 2009 and as a Vice President of Virginia Savings Bank from 2009 to 2011. He served on the board of the Virginia Association of Community Banks from 2012 to 2014 and as a member of the executive committee of the Virginia Bankers Association, previously serving as its chairman. He is a director of Community Bankers Bank Financial Corp and its subsidiary, Community Bankers Bank in Richmond, Virginia. He also served on the Council of Federal Home Loan Banks. Mr. Harvard has a served on numerous non-profit boards over his career and currently serves on the boards of the Top of Virginia Chamber of Commerce and the Shenandoah Valley Westminster Canterbury. Mr. Harvard currently serves as vice chairman of the Credit and Member Services Committee and vice chairman of the Governance and Compensation Committee of the Bank's board.

Jonathan Kislak has served as principal and chairman of the board of Antares Capital Corporation, a venture capital firm investing equity capital in expansion stage companies and management buyout opportunities, since 1999. From 1993 to 2005, Mr. Kislak served as president and chairman of the board of Kislak Financial Corporation, a community bank holding company in Miami, Florida. From 2013-2016, Mr. Kislak served on the board of directors and chair of the audit committee of Cherry Hill Mortgage Investment Corp. (NYSE - CHMI). He currently serves as vice chairman of the Enterprise Risk and Operations Committee of the Bank's board. Mr. Kislak's experience in banking, audit, capital markets, mortgage markets and affordable housing supported his nomination as an independent director.

LaSalle D. Leffall, III is president of LDL Financial, a corporate advisory and investment firm he founded in 2006. From 2002 to 2006, he was a senior executive of The NHP Foundation, one of the nation's largest nonprofit owners of affordable multifamily housing, and served as president and chief operating officer. In October and November 2008, he served as acting chief executive officer. From 1996 to 2002, Mr. Leffall was an investment banker in the mergers and acquisitions divisions of UBS and Credit Suisse in New York, New York. In 1992, Mr. Leffall began his career as an attorney in the corporate department of Cravath, Swaine & Moore in New York, New York. Mr. Leffall serves on the board of directors of the registered investment companies Mutual of America Investment Corporation (since 2011), Mutual of America Institutional Funds, Inc. (since 2011), and Mutual of America Variable Insurance Portfolios, Inc (since 2019). He is a member of the New York State Bar, District of Columbia Bar, Council on Foreign Relations, The Federal City Council, and The Economic Club of Washington, D.C. Mr. Leffall earned a B.A., magna cum laude, in History from Harvard College followed by the simultaneous completion of a J.D., cum laude, from Harvard Law School and M.B.A. from Harvard Business School. He currently serves as vice chairman of the Audit Committee of the Bank's board. Mr. Leffall's experience in finance, law, and affordable multifamily housing, and derivatives knowledge supported his nomination as an independent director.

Kim C. Liddell has served as president and chief executive officer of 1880 Bank, formerly known as the National Bank of Cambridge, in Cambridge, Maryland, since 2010. He was elected chairman of the board of directors in April 2011. From 2004 to 2009, Mr. Liddell served as chief operating officer and executive vice president of Cardinal Financial Corporation (CFNL) and Cardinal Bank. Mr. Liddell has served as a board member of the Virginia Bankers Association's Member Services, Inc., Junior Achievement of the National Capital Area, Business in Education Partnership with the Falls Church City Public Schools, Arlington County Chamber of Commerce, Celebrate Fairfax, and Leadership Fairfax. Mr. Liddell currently serves on the boards of the Maryland Bankers Association and Dorchester General Hospital Foundation. He previously served on the board of the Dorchester County Chamber of Commerce. Mr. Liddell currently serves as chairman of the Credit and Member Services Committee of the Bank's board.

Garrett S. Richter serves as president and chief executive officer of First Florida Integrity Bank (FFIB), the successor to First National Bank of the Gulf Coast, which was founded in 2009. He also serves as a director and president of TGR Financial, Inc., FFIB's holding company. Prior to that, he served for one term in the Florida House of Representatives and two terms as a Florida State Senator, chairing the Senate Banking and Insurance Committee for four years. He was the President Pro Tempore of the Florida Senate from 2012-2016. From 1994 to 2005 he was President and CEO of First National Bank of Naples, a bank which he co-founded in 1989. Mr. Richter has also served as a commissioner on the Florida Ethics Commission. He is on the board of directors for the Greater Naples Chamber of Commerce, chairing the Public Policy Committee. He is a veteran of the U.S. Army, having served with the 75th Ranger Company in Vietnam in 1971.

John B. Rucker has served as managing director of Stifel, Nicolaus & Company, Incorporated (Stifel), an investment banking firm, since 2015, and manages Stifel's affordable housing business. Mr. Rucker was a founding partner and managing director of Merchant Capital, L.L.C., a public finance investment banking firm, from 1987 to 2015, which was acquired by Stifel in 2015. He is also a registered municipal advisor. He was a member of Fannie Mae's Southeast Regional Housing Advisory Council and Fannie Mae's National Housing Impact Advisory Council in 2004 and 2005. He has also served on the board of directors of the National Housing & Rehabilitation Association since 2003. Mr. Rucker served on the Bank's Affordable Housing Advisory Council from 2012 to 2016, serving as its vice chairman from 2014 to 2015 and as its chairman in 2016. He currently serves as chairman of the Housing and Community Investment Committee of the Bank's board. Mr. Rucker's experience in derivatives/hedging, affordable housing, large commercial banks, and information technology supported his nomination as an independent director.

Code of Conduct

The board has adopted a Code of Conduct that applies to the Bank's principal executive officer, principal financial officer, and principal accounting officer or controller, or persons performing similar functions, in each case, who are employees of the Bank. The Code of Conduct is posted on the Who We Are - Investor Relations -Governance section of the Bank's Internet website at http://corp.fhlbatl.com/who-we-are/investor-relations/. Any amendments to, or waivers under, the Bank's Code of Conduct that are required to be disclosed pursuant to the SEC's rules will be disclosed on the Bank's website.

Director Independence, Compensation Committee, Audit Committee, and Audit Committee Financial Expert

General

The board of directors of the Bank is required to evaluate the independence of the directors of the Bank under two distinct director independence standards. First, Finance Agency regulations establish independence criteria for directors who serve as members of the Bank's Audit Committee. Second, SEC rules require that the Bank's board of directors apply the independence criteria of a national securities exchange or automated quotation system in assessing the independence of its directors.

As of the date of this Report, the Bank has 14 directors, eight of whom are member directors and six of whom are independent directors. None of the Bank's directors is an "inside" director. That is, none of the Bank's directors is a Bank employee or officer. Further, as the Bank's capital stock may only be owned by members, former members, and certain non-members, the Bank's directors cannot personally own stock or stock options in the Bank. However, each of the member directors is an officer or director of an institution that is a member of the Bank and that is encouraged to, and does, engage in transactions with the Bank on a regular basis.

Finance Agency Regulations Regarding Independence

The Finance Agency's director independence standards prohibit an individual from serving as a member of the Bank's Audit Committee if he or she has one or more disqualifying relationships with the Bank or its management that would interfere with the exercise of that individual's independent judgment. Disqualifying relationships considered by the board are: employment with the Bank at any time during the last five years; acceptance of compensation from the Bank other than for service as a director; being a consultant, advisor, promoter, underwriter, or legal counsel for the Bank at any time within the last five years; and being an immediate family member of an individual who is or who has been within the past five years, a Bank executive officer. The board assesses the independence of each director under the Finance Agency's independence standards, regardless of whether he or she serves on the Audit Committee. As of March 5, 2020, each of the Bank's directors was independent under these criteria.

SEC Rules Regarding Independence

SEC rules require the Bank's board of directors to adopt a standard of independence to evaluate its directors. The board has adopted the independence standards of the New York Stock Exchange (NYSE) to determine which of its directors are independent, including members of its Governance and Compensation Committee and Audit Committee, and whether the Bank's Audit Committee's financial experts are independent.

After applying the NYSE independence standards, the board determined that, as of March 5, 2020, directors Garczynski, Handorf, Kislak, Leffall, Rucker, and Strickland, each an independent director, were independent. Based upon the fact that each member director is a senior official of an institution that is a member of the Bank (and thus is an equity holder in the Bank), that each such institution routinely engages in transactions with the Bank, and that such transactions occur frequently and are encouraged, the board determined that none of the member directors presently meets the independence criteria under the NYSE independence standards.

It is possible that under the NYSE objective criteria for independence (particularly the criterion regarding the amount of business conducted with the Bank by the director's institution), a member director could meet the independence standard on a particular day. However, because the amount of business conducted by a member director's institution may change frequently, and because the Bank generally desires to increase the amount of business it conducts with each member, the directors deemed it inappropriate to draw distinctions among the member directors based upon the amount of business conducted with the Bank by any director's institution at a specific time.

Compensation Committee

The board has a Governance and Compensation Committee, composed of directors Dunlap, Garczynski, Harvard, Leffall, Richter, Rucker, Strickland, and Whaley. As the Bank's Governance and Compensation Committee may only recommend actions to the full board regarding governance practices and compensation and benefits programs, which the full board may approve or disapprove, the board assesses the independence of the full board under the NYSE's standards for compensation committees. The board determined that, as of March 5, 2020, each of directors Garczynski, Handorf, Kislak, Leffall, Rucker, and Strickland was independent under the NYSE independence standards for compensation committee members, but for the reasons noted above, none of the member directors was independent under such standards.

Audit Committee

The board has a standing Audit Committee, composed of directors Argrett, Cosby, DeFerie, Dunlap, Handorf, Leffall, Strickland, and Whaley. The board determined that, as of March 5, 2020, each of directors Handorf, Leffall and Strickland was independent under the NYSE independence standards for audit committee members, but, for the reasons noted above, none of the member directors serving on the Audit Committee was independent under such standards. The board also determined that each of directors Argrett, Cosby, Dunlap, DeFerie, Handorf, Leffall, and Whaley is an "audit committee financial expert" within the meaning of the SEC rules.

The board also assesses the independence of the Audit Committee members under Section 10A (m)(3) of the Exchange Act. As of March 5, 2020, each of the Bank's directors was independent under these criteria. As stated above, the board determined that each member of the Audit Committee was independent under the Finance Agency's standards applicable to the Bank's Audit Committee.

Board Leadership Structure and Risk Oversight

The directors are nominated and elected in accordance with applicable law and Finance Agency regulations. As required by applicable law, the chairman and vice chairman of the board are elected by a majority of all the directors of the Bank from among the directors of the Bank for two year terms, and since Bank officers may not serve as directors of the Bank, neither the board chairman or vice chairman position can be filled by the president and chief executive officer of the Bank.

The board of directors establishes the Bank's risk management culture, including risk tolerances and risk management philosophies, by establishing its risk management system, overseeing its risk management activities, and adopting its risk appetite and RMP. The board reviews the risk appetite report on a quarterly basis and approves any changes as appropriate. The board receives regular updates on the Bank's key risks including an independent risk assessment. The board reviews the RMP at least annually and approves any amendments to it as appropriate. For further discussion of the risk appetite and the RMP, please see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations-Risk Management. The board works with management to align the Bank's strategic activities and objectives within the parameters of the risk appetite framework and the RMP. The board utilizes committees as an integral part of overseeing risk management, including an audit committee, a credit and member services committee, an enterprise risk and operations committee, an executive committee, a finance committee, a governance and compensation committee, and a housing and community investment committee, with the following oversight responsibilities:

- *Audit Committee* oversees the Bank's financial reporting process, system of internal control, audit process, policies and procedures for assessing and monitoring implementation of the strategic plan, and the Bank's process for monitoring compliance with laws and regulations.
- *Credit and Member Services Committee* oversees the Bank's credit and collateral policies and related programs, services, products and documentation, and the Bank's credit and collateral risk management program, strategies, and activities.
- *Enterprise Risk and Operations Committee* oversees the Bank's enterprise risk management functions, operations, information technology, and other related matters.
- *Executive Committee* exercises most of the powers of the board in the management and direction of the affairs of the Bank during the intervals between board meetings.
- *Finance Committee* oversees matters affecting the Bank's financial performance, capital management and other related matters, including the Bank's market and liquidity risk management program, strategies, and activities.
- *Governance and Compensation Committee* oversees the Bank's governance practices, compensation and benefits programs, and other related matters.
- *Housing and Community Investment Committee* oversees the Bank's housing and community investment policies, programs, and other relevant matters, including any other Bank products, services, and programs that may provide grants, subsidies, or other forms of assistance to support affordable housing and community economic development for low- and moderate-income individuals and communities.

The Bank's internal management is overseen by the president and chief executive officer and delegated to other senior managers and internal management committees. The Bank has determined that this leadership structure is the most effective means of actively engaging the board of directors in risk management oversight while utilizing Bank management to implement and maintain sound risk management practices.

Compensation Committee Interlocks and Insider Participation

The board has a Governance and Compensation Committee that recommends actions to the full board regarding governance practices and compensation and benefits programs, which the full board of directors may approve or disapprove. None of the directors serving on the board in 2019 has at any time been an officer or employee with the Bank. None of the Bank's executive officers served during 2019 or is serving on the board of directors or the compensation committee of any entity whose executive officers served on the Bank's board of directors.

Executive Officers

The following table presents the names, ages, and titles of the executive officers of the Bank and all persons chosen to become executive officers as of the date of this Report. No executive officer has any family relationship with any other executive officer or director of the Bank.

Executive Officer	Age	Title
W. Wesley McMullan	56	President and Chief Executive Officer
Kirk R. Malmberg	59	Executive Vice President and Chief Operating Officer
Alp E. Can	44	Executive Vice President and Chief Risk Officer
Reginald T. O’Shields	49	Executive Vice President and General Counsel, Chief Compliance and Ethics Officer
Joel Badger	53	Senior Vice President and Chief Audit Officer
Scott M. Brennan	43	Senior Vice President and Director of Sales
Julia S. Brown	55	Senior Vice President and Corporate Secretary
Sharon B. Cook	41	Senior Vice President and Chief Marketing Officer
Bryan Delong	56	Senior Vice President and Chief Human Resources Officer
Arthur L. Fleming	61	Senior Vice President and Director of Community Investment Services
Melissa V. Hoggatt	59	Senior Vice President and Chief Information Officer
Annette Hunter	55	Senior Vice President and Director of Business Operations
Haig H. Kazazian, III	54	Senior Vice President and Chief Financial Officer
Robert S. Kovach	56	Senior Vice President and Chief Credit Officer
Eric M. Mondres	65	Senior Vice President and Director of Government and Industry Relations
Leslie H. Schreiner	56	First Vice President and Director of Diversity and Inclusion
William T. Shaw	48	Senior Vice President and Controller

W. Wesley McMullan was appointed president and chief executive officer in December 2010. Previously, he served as executive vice president and director of financial management since 2004, with responsibility for sales, MPP sales, asset-liability management, liquidity management, other mission-related investments, customer systems and operations, and member education. Mr. McMullan joined the Bank as a credit analyst in 1988 and later earned promotions to assistant vice president in 1993, vice president in 1995, group vice president in 1998, and senior vice president in 2001. He currently serves as vice chairman of the board of directors of the FHLBanks’ Office of Finance. Mr. McMullan is a chartered financial analyst and earned a B.S. in finance from Clemson University.

Kirk R. Malmberg was appointed executive vice president and chief operating officer, effective November 1, 2019, having previously served as executive vice president and chief financial officer since 2011. He oversees the Bank’s member sales and outreach, community investment services, accounting, financial reporting, financial operations management, investment and derivatives operations, treasury and information technology. From 2007 through March 2011, he served as executive vice president and chief credit officer, overseeing collateral services, credit services, community investment services and mortgage program operations. Prior to that, Mr. Malmberg served as senior vice president responsible for the Bank’s mortgage programs. He joined the Bank in 2001 as senior vice president, asset-liability management, after having served for five years as senior vice president, treasury, at FHLBank Chicago. Mr. Malmberg earned an M.B.A. from Rice University and a B.A. from Trinity University.

Alp E. Can has served as chief risk officer since 2017, directing the Bank's enterprise risk management function. Effective November 1, 2019, Mr. Can also oversees the Bank’s credit and collateral services and collateral risk management operations. Mr. Can was appointed executive vice president effective January 1, 2020, having served as senior vice president since 2018. He is responsible for overseeing enterprise-wide risk assessment and reporting functions, credit risk, financial risk modeling, as well as model validation efforts for the Bank. Mr. Can joined the Bank in 2005 as an asset liability analyst in the financial risk management and modeling department. He was promoted to first vice president and manager of financial risk modeling in 2013 and to director of enterprise risk management in 2014. Mr. Can earned a bachelor’s degree in economics from the University of Istanbul, and an M.S. in mathematical risk management and M.B.A.- Finance, each from Georgia State University.

Reginald T. O'Shields was appointed director of Enterprise Solutions effective November 1, 2019 and executive vice president effective January 1, 2020, having previously served as senior vice president and general counsel since 2011 and Chief Compliance and Ethics Officer since 2018. Mr. O'Shields manages the delivery of legal services by the Bank's legal department covering a wide variety of corporate, securities, finance, compliance and regulatory matters. In addition, he is responsible for overseeing all Bank programs related to strategic planning, human resources and administrative services, corporate communications, marketing, and government and industry relations. Mr. O'Shields joined the Bank in 2003 as a senior attorney and earned promotions to assistant general counsel in 2005, associate general counsel in 2006 and deputy general counsel in 2007. He was named senior vice president, deputy general counsel and director of legal services January 1, 2011. Before joining the Bank, Mr. O'Shields was in private legal practice with Sutherland Asbill & Brennan, LLP in Atlanta, Georgia, Haynsworth Sinkler Boyd in Greenville, South Carolina, and Simpson, Thacher & Bartlett in New York, New York. Mr. O'Shields earned a J.D. from Vanderbilt University and a B.A. in economics from Furman University.

Joel Badger was appointed chief audit officer effective November 29, 2019 and promoted to senior vice president effective January 1, 2020. In that role, he is responsible for providing an independent audit of the Bank by evaluating the internal control system and testing for compliance with internal policies and procedures as well as with applicable laws and directives from the Finance Agency. Mr. Badger reports directly to the audit committee of the board of directors. Mr. Badger joined the Bank in 2004 as Vice President and Senior Financial Risk Auditor, was promoted to Audit Director of Capital Markets in 2006 and First Vice President in 2007. He gained audit responsibility for Information Technology in 2014 and has served as Deputy Chief Audit Officer since March of 2016. Mr. Badger earned a Master of Business Administration degree in Finance from Georgia State University and a Bachelor of Science degree in Management with concentrations in Accounting and Economics from the Georgia Institute of Technology. Mr. Badger is a Certified Public Accountant, Certified Investments and Derivatives Auditor, Certified Internal Auditor, Certified Information Systems Auditor, Certified in Risk and Information Systems Control, and a Certified Risk Management Auditor. Prior to joining the Bank, Mr. Badger was with Branch Banking and Trust, Wachovia Bank, and the Federal Reserve Bank of Atlanta.

Scott M. Brennan has served as director of sales since 2014, being promoted from first vice president to senior vice president effective January 1, 2019. He joined the Bank in 2001 in the Bank's member sales and trading department as a relationship manager, serving as senior relationship manager from 2006 to 2013, having been promoted from vice president to first vice president in 2014. Mr. Brennan earned a B.S. from Franklin and Marshall College.

Julia S. Brown serves as senior vice president and corporate secretary. The board of directors appointed Ms. Brown to serve as corporate secretary in 2011. Prior to her appointment as corporate secretary, she served as associate general counsel, assistant corporate secretary beginning in 2005, deputy general counsel, assistant corporate secretary beginning in 2007, and first vice president, deputy general counsel for governance beginning in 2009. Before joining the Bank in 2001 as a senior attorney, Ms. Brown practiced commercial real estate law with Sutherland Asbill & Brennan, LLP, in Atlanta, Georgia. She earned a B.S. in Spanish and anthropology from Wellesley College, *summa cum laude*, and her J.D., *cum laude*, from Harvard Law School.

Sharon B. Cook has served as chief marketing officer since 2015, having been promoted from first vice president to senior vice president effective January 1, 2020. Ms. Cook oversees the Bank's corporate communications, marketing, and government and industry relations. Ms. Cook joined the bank in 2008 as a senior marketing communications manager. She was promoted to vice president, director of corporate communications in 2011. Ms. Cook earned an M.B.A. from Brenau University and a B.A. in Journalism and Mass Communications from Georgia State University.

Bryan Delong has served as senior vice president, chief human resources officer, since 2016, having previously served as director of human resources since 2008. Mr. Delong is responsible for executing the Bank's human resources strategies to include: talent acquisition, total rewards, employee development, workforce diversity and inclusion, and human resources compliance. Mr. Delong also leads the Bank's staff services and property management functions, which include facilities operations, tenant leasing, security, print and mail services, and procurement. A 27-year veteran of the Bank, Mr. Delong previously served as the assistant director of human resources with responsibility for managing the Bank's compensation, benefits, human resources information systems, and employee development programs. Prior to joining the Bank in 1993, Mr. Delong worked at LOMA as a compensation consultant and AT&T as a training specialist. Mr. Delong holds an M.S. in industrial and organizational psychology from Radford University, an M.A. in human resources development from Georgia State University, and a B.A. in English from Earlham College. He holds a certification as a Professional in Human Resources.

Arthur L. Fleming has served as senior vice president, director of community investment services, directing the Bank's community investment, economic development, and affordable housing products and services, since 2007. Mr. Fleming has experience in a variety of financial services, legal, housing development, and academic roles. Before joining the Bank, Mr. Fleming was chief lending and investment officer for the Opportunity Finance Network, Inc., a national community development financial institution. He also served as the senior director for the southeast region and director of housing finance for the Fannie Mae Foundation; the senior vice president, managing director of housing initiatives at GMAC; founder and executive director of the Community Financing Consortium, Inc; and an attorney/senior associate for the FAU/FIU Joint Center for Environmental and Urban Problems. Mr. Fleming earned his undergraduate degree from Florida State University, and a master's degree in Urban and Regional Planning and a J.D. from the University of Florida.

Melissa V. Hoggatt was appointed senior vice president and chief information officer effective April 20, 2019, having previously served as first vice president and interim chief information officer since December of 2018. Prior to that she was Director of Financial Operations Management from 2014. Ms. Hoggatt joined the Bank in 2012 as the Director of Community Investment Services Production and Compliance Operations. Ms. Hoggatt received a B.S. in Psychology from the University of Alabama and her Executive MBA from Georgia State University.

Annette Hunter was appointed director of business operations effective November 1, 2019, having previously served as director of accounting operations since 2006. In that role, Ms. Hunter is responsible for the daily accounting operations of the derivatives, investments, consolidated obligations, advances and purchased mortgage portfolios, as well as financial operations management. Ms. Hunter was promoted from first vice president to senior vice president in 2015. Ms. Hunter joined the Bank in 2002 as manager of derivative and investment operations. Prior to joining the Bank, she served in various managerial accounting roles at Mirant Corporation, Louis Dreyfus Energy Corporation and Continental Hydraulic Hose. Ms. Hunter earned a B.S. in Business Administration from The Ohio State University and an M.B.A. from Kennesaw State University. She is a certified public accountant.

Haig H. Kazazian, III was appointed chief financial officer effective November 1, 2019, having previously served as treasurer since 2013. Mr. Kazazian joined the Bank as a credit analyst in 1992 and earned promotions to manager of national accounts and product development in 2001, first vice president in 2005, manager of national accounts and capital markets trading in 2009, and manager of treasury analysis and national accounts sales and trading in 2011, and senior vice president in 2014. He is a chartered financial analyst and earned an M.B.A. and a B.A. in economics, each from Emory University. Mr. Kazazian was an M.B.A. Fellowship Recipient.

Robert S. Kovach has served as senior vice president, chief credit officer since 2012, directing the Bank's credit and collateral services and collateral risk management operations. Prior to joining the Bank in 2010 as director of collateral services, Mr. Kovach served a variety of roles with FHLBank Pittsburgh from 1996 to 2010, including director of collateral services, chief investment officer, and director of internal audit. He also served as a field manager and a senior examiner for the Office of Thrift Supervision. Mr. Kovach holds a chartered financial analyst designation and earned a B.S. in chemistry from Dickinson College.

Eric M. Mondres has served as senior vice president, director of government and industry relations since 2009. Mr. Mondres oversees the Bank's efforts related to public policy development and strategy, as well as its relationships with industry members and groups as it relates to the Bank's business and mission. He joined the Bank in 2003 as vice president and director of government relations. Before joining the Bank, he worked for America's Community Bankers, the Thrift Depositor Protection Oversight Board, the Environmental Protection Agency as a consultant, the U.S. Department of Agriculture, and the U.S. House of Representatives' House Administration Committee as assistant minority counsel. Mr. Mondres earned a B.A. degree in history and political science from Bridgewater College and a J.D. from Cumberland School of Law.

Leslie H. Schreiner has served as first vice president, director of diversity and inclusion, since July 2018. She is responsible for the oversight and implementation of the Bank's Diversity and Inclusion Program. From 2016 to 2018, she served as Director of Strategic Planning and Accounting Services, responsible for the Bank's strategic planning and budgeting process, business intelligence initiatives, as well as accounts payable, fixed assets and expense reimbursement. Ms. Schreiner joined the Bank in 2007 as Director of Accounting Automation and Technical Compliance. Prior to joining the Bank, she held various senior accounting roles with Resources Global, Primis and Information America. Leslie earned a B.A. in Accounting from University of Georgia and M.B.A in Finance from Georgia State University. She is a certified public accountant and certified diversity professional.

William T. Shaw has served as controller of the Bank since 2014, being promoted from first vice president to senior vice president effective January 1, 2019. Mr. Shaw oversees financial reporting, accounting policy, and derivatives hedge accounting. From 2009 to 2013 he served as vice president, director of accounting policy. Mr. Shaw was promoted to director of accounting policy and financial reporting in 2013 and to first vice president in 2014. Before joining the Bank as assistant vice president, manager of accounting policy in 2008, Mr. Shaw served as vice president of accounting and assistant controller for First Charter Corporation, director of SEC reporting for Novelis Inc., manager of inspections with the Public Company Accounting Oversight Board, and various manager roles with PricewaterhouseCoopers LLP. He received his B.S. in accounting and master's degree in accountancy from Brigham Young University. He is also a certified public accountant.

Item 11. Executive Compensation.

Compensation Discussion and Analysis

Introduction

This section describes and analyzes the Bank's 2019 compensation program for:

- the chief executive officer,
- the two executive officers who served as chief financial officer during 2019, and
- the three other most highly-compensated executive officers who were serving as executive officers on December 31, 2019.

These executive officers are collectively referred to as the Bank's "named executive officers."

The Bank's named executive officers during 2019 are identified in the following table.

Name	Title
W. Wesley McMullan	President and Chief Executive Officer
Haig H. Kazazian, III(1)	Senior Vice President and Chief Financial Officer
Kirk R. Malmberg(2)	Executive Vice President and Chief Operating Officer
Reginald T. O'Shields(3)	Executive Vice President and General Counsel, Chief Compliance and Ethics Officer
Robert S. Kovach	Senior Vice President and Chief Credit Officer
Robert F. Dozier, Jr.(4)	Former Executive Vice President and Chief Business Officer

(1) Mr. Kazazian was appointed Chief Financial Officer effective November 1, 2019.
(2) Mr. Malmberg served as Chief Financial Officer until October 31, 2019.
(3) Mr. O'Shields was promoted to Executive Vice President effective January 1, 2020. Certain compensation disclosures reflect his position as Senior Vice President during 2019.
(4) Mr. Dozier retired on December 31, 2019.

Philosophy and Objectives

The Bank's compensation philosophy and objectives are to attract, motivate, and retain high caliber financial services executives capable of achieving strategic business initiatives, enhancing business performance and increasing shareholder value. The Bank's compensation program is designed to reward this performance and enhanced value and to offer competitive compensation elements that align its executives' incentives with the interests of its members. To mitigate unnecessary or excessive risk-taking by executive management, the Bank's incentive compensation plan contains overall Bank performance goals that are dependent on an aggregation of transactions throughout the Bank and that cannot be individually altered by executive management. The incentive compensation plan contains quantitative components that are evaluated by the board of directors. Additionally, the board of directors maintains discretionary authority over all incentive compensation awards, giving the board of directors the flexibility to review Bank performance throughout the year and to adjust incentive compensation accordingly.

Elements of Compensation

The Bank compensates its executive officers with a combination of base salary, incentive compensation, and benefits. The Bank is unable to offer equity-related compensation because it is a cooperative, and only member financial institutions may own its capital stock. Accordingly, the Bank offers other compensation elements, such as qualified and non-qualified defined benefit and defined contribution pension plans, to motivate long-term performance and encourage retention. Because the Bank is exempt from federal taxes, the deductibility of compensation is not relevant to compensation plan design. The elements of the Bank's compensation program for executive officers, and the objective of each compensation element, are described below.

Base salary. Base salary is established on the basis of the ongoing duties associated with managing a particular set of functions at the Bank and provides an amount of fixed compensation. Each executive's base salary also is used as a basis in calculating the executive's annual incentive award opportunity, as described below.

Incentive compensation. The Bank provides an annual cash award opportunity under its Incentive Compensation Plan (ICP) to executive officers based on the achievement of quantitative goals set and evaluated by the board of directors. To promote consistently high corporate performance on a long-term basis and enhance the retention of key senior executive officers, payment of fifty percent of any ICP granted to a named executive officer is deferred and distributed over a three-year period, together with positive or negative returns (Deferred Incentive). The named executive officers' ICP awards and Deferred Incentive are subject to adjustment or forfeiture in certain events as described below under "2019 Weights and Awards-*Incentive Compensation Plan Award Adjustment or Forfeiture*."

Benefits. The Bank provides retirement benefits to promote executive retention, and the executive officers are eligible to participate in the same benefit plans that are made available to other employees of the Bank, such as medical, group term life and long-term disability coverage. The Bank also provides limited perquisites to executive officers.

Executive Compensation Process

Board and committee consideration of executive compensation. The Bank's board of directors establishes the Bank's executive compensation philosophy and objectives and has final approval of any compensation decisions related to the Bank's chief executive officer (CEO), all officers reporting directly to the CEO who are senior vice presidents or higher, and any officer determined to be a named executive officer in the prior year. The governance and compensation committee of the board of directors advises and assists the board and makes recommendations to the board relating to compensation of such officers.

The CEO reviews and recommends to the board the base salary of the officers who report directly to him and who are senior vice president and higher level officers. The CEO also determines the base salary of all other senior vice president officers (other than the chief audit officer and, as noted above, any officer determined to be a named executive officer the prior year) within an overall budget approved by the board of directors.

Use of compensation consultant. The governance and compensation committee of the board of directors selected and engaged Willis Towers Watson to provide assistance in evaluating the Bank's executive compensation programs for 2019. Willis Towers Watson reports directly to the committee with respect to executive compensation.

Consideration of competitive compensation levels. The Bank's executive compensation program is designed to be appropriately competitive with prevailing practices in the broader financial services industry, consistent with the Bank's business and risk profile. As part of each compensation review process, the board considered (1) the median and 75th percentiles for base pay, bonus pay, and total cash compensation at FHLBanks of similar size and complexity based on total assets, advance activity, membership, and scope of operations, and (2) the median and 75th percentiles for base pay, bonus pay, and total cash compensation offered at certain comparable commercial banks and financial services organizations. The board also considered the retirement benefits for certain comparable commercial banks. The companies that were included in the peer groups for 2019 are listed below in "Compensation Decisions in 2019 — Overview." The board used this data to assess competitive levels of compensation for the Bank's executives and did not target any named executive officer's compensation to a specific percentile of such executive officer's comparable position in the peer groups.

The board does not evaluate specifically the multiples by which a named executive officer's cash compensation is greater than that of non-executive employees when setting executive compensation. The Bank is exempt from SEC proxy rules and does not provide shareholder advisory "say on pay" votes regarding executive compensation.

Finance Agency oversight of executive compensation. Pursuant to the Housing Act, the Director prohibits the FHLBanks from providing to any executive officer compensation that is not reasonable and comparable with compensation for employment in other similar businesses involving similar duties and responsibilities. Pursuant to this authority and a Finance Agency final rule on executive compensation, the FHLBanks are required to report to the Director all compensation actions relating to the president, the chief financial officer, and the three other most highly compensated officers at least 30 days in advance of any planned board decision with respect to those actions, and at least 60 days prior to entering into any written arrangement that provides incentive awards to any executive officer. At any time before an executive compensation action is taken, the Director may require an FHLBank to withhold any payment, transfer, or disbursement of compensation to an executive officer, or to place such compensation in an escrow account, or prohibit the action. The Housing Act also authorizes the Director to prohibit the Bank from making any "golden parachute" payments to its officers, employees, and directors.

In addition, Finance Agency Advisory Bulletin 2009-AB-02 established five principles for executive compensation by the FHLBanks and the Office of Finance:

- executive compensation must be reasonable and comparable to that offered to executives in similar positions at other comparable financial institutions;
- executive incentive compensation should be consistent with sound risk management and preservation of the par value of the FHLBank's capital stock;
- a significant percentage of an executive's incentive-based compensation should be tied to longer-term performance and outcome indicators;
- a significant percentage of an executive's incentive-based compensation should be deferred and made contingent upon the FHLBank's financial performance over several years; and
- the FHLBank's board of directors should promote accountability and transparency in the process of setting compensation.

Under the capital classifications rules issued by the Finance Agency, a significantly undercapitalized FHLBank is prohibited from paying any bonus to an executive officer, or giving any salary increase to an executive officer without the prior written approval of the Director. The Bank was not undercapitalized during 2019.

Compensation Decisions for 2019

Overview

The board of directors bases its compensation decisions on both objective criteria related to the Bank's performance and subjective criteria related to each executive's performance. Among the various criteria the board considered in evaluating the named executive officers' performance were:

- achievement of performance objectives for 2019 as determined by the board;
- fulfillment of the Bank's public policy mission;
- demonstration of leadership and vision for the Bank;
- implementation and maintenance of effective business strategies and operations, legal and regulatory compliance programs, risk management activities, and internal controls commensurate with the Bank's size, scope, and complexity;
- establishment and maintenance of strong relationships between the Bank and its customers, shareholders, employees, regulators, and other stakeholders; and
- the Bank's 2019 financial results.

Base Salary

In determining the base salary for Messrs. McMullan, Malmberg, O'Shields, Kovach and Dozier the board considered data developed by Willis Towers Watson regarding the cash compensation provided by a combination of three different groups:

(1) the following FHLBanks deemed to be of similar size and complexity based on total assets, advance activity, membership, and scope of operations (FHLB Peers):

- FHLBank Boston
- FHLBank Chicago
- FHLBank Cincinnati
- FHLBank Des Moines
- FHLBank New York
- FHLBank Pittsburgh
- FHLBank San Francisco

(2) the following commercial banks with assets between $20 billion and $65 billion, plus two additional commercial bank with assets of $71.6 and $104.2 billion that had historically been included in the commercial bank peer group (Commercial Bank Peers):

- Associated Banc-Corp
- City National Bank
- Comerica
- Commerce Bancshares
- EverBank
- First Citizens Bank
- Huntington Bancshares
- Iberia Bank
- People's Bank
- Synovus Financial Corporation
- UMB Financial
- Webster Bank

The median asset size for the Commercial Bank Peers was $30.9 billion.

and (3) the following financial services organizations with assets generally between $20 billion and $65 billion, plus four additional financial services organizations with assets between $68 billion and $167 billion (Financial Service Peers):

- Alliance Data Systems
- Anthem
- Associated Banc-Corp
- Centene
- Chubb
- Cigna
- City National Bank
- CNO Financial
- Comerica
- Commerce Bancshares
- Cullen Frost Bankers
- EverBank
- First Citizens Bank
- Great American Insurance
- Huntington Bancshares
- Iberia Bank
- People's Bank
- Reinsurance Group of America (RGA)
- Synovus Financial Corporation
- TD Ameritrade
- UMB Financial
- Unum
- Visa
- Webster Bank

The median asset size for the Financial Service Peers was $36.6 billion.

Given that the CEO looked to the executive vice presidents (Messrs. Malmberg and Dozier) to collectively execute the role of Chief Operating Officer, Willis Towers Watson developed blended market rates for them that reflected 33 percent Chief Operating Officer and 67 percent role specific market data.

The board considered data from the FHLB Peers for Messrs. McMullan, Malmberg, O'Shields, Kovach and Dozier, including certain job matching premiums to more accurately compare functional responsibilities. In addition, the board considered data from the Commercial Bank Peers for Messrs. McMullan, Malmberg, O'Shields and Dozier, and from the Financial Service Peers for Messrs. Malmberg, Kovach and Dozier.

According to the data provided to the board by Willis Towers Watson,

- Mr. McMullan's salary was below the median base salary for the presidents of the FHLB Peers as well as the Commercial Bank Peers;
- Mr. Malmberg's base salary was below the median base salaries for chief financial officers of the FHLB Peers, Financial Service Peers as well as the Commercial Bank Peers;

- Mr. O'Shields' salary was below the median base salary for the general counsels of the FHLB Peers as well as the Commercial Bank Peers;
- Mr. Kovach's salary was above the median base salary for chief credit officers of the FHLB Peers as well as the Financial Service Peers; and
- Mr. Dozier's base salary was below the median base salaries for comparable positions of the FHLB Peers, Financial Service Peers as well as the Commercial Bank Peers;

After reviewing the Bank's performance and the performance of each of Messrs. McMullan, Malmberg, O'Shields, Kovach, and Dozier during fiscal year 2018, the board set:

- Mr. McMullan's base salary for 2019 at $935,000, which was an increase of 12.0 percent from 2018;
- Mr. Malmberg's base salary for 2019 at $545,000, which was an increase of 4.81 percent from 2018;
- Mr. O'Shield's base salary for 2019 at $372,750, which was an increase of 5.00 percent from 2018;
- Mr. Kovach's base salary for 2019 at $415,000, which was an increase of 2.47 percent from 2018 and
- Mr. Dozier's base salary for 2019 at $525,000, which was an increase of 5.00 percent from 2018.

In determining the base salary for Mr. Kazazian, the CEO considered the cash compensation for comparable positions at all of the FHLBanks. According to this data, Mr. Kazazian's base salary was in line with the median base salary for comparable positions at the other FHLBanks. Following this review, and after consideration of his performance during fiscal year 2018 and the CEO's recommendation, the board determined to increase Mr. Kazazian's base salary for 2019 to $366,000, which represented a 4.57 percent increase from 2018.

Incentive Compensation

The following table presents the 2019 award opportunities, as established by the board under the ICP, expressed as a percentage of base pay earnings during the year.

2019 Award Opportunities

	Percent of Base Salary (%)		
Title	**Threshold**	**Target**	**Maximum**
President and Chief Executive Officer	50.00	75.00	100.00
Executive Vice Presidents	35.00	60.00	85.00
Senior Vice Presidents	30.00	50.00	70.00

For 2019, the board established three incentive goals under the ICP, which correlate to the shareholder focus and risk management performance priorities reflected in the Bank's strategic plan. Each of these goals is described in more detail below. Awards for senior vice presidents also included individual and team goals. The board of directors established threshold, target, and maximum performance levels for each quantitative incentive goal. Each goal's "target" performance level is consistent with the assumptions set forth in the annual operating budget, forecasts, and strategic plan. The "threshold" and "maximum" performance levels are designed to reward partial attainment of the goal and performance beyond the forecasted levels, respectively. Factors considered in setting threshold and maximum performance levels include management's projections concerning economic conditions, interest rates, demand for advances products, and balance sheet structure.

The following tables provide the weights and awards for each performance target as a percentage of base salary that the board established for 2019. A description of each of the performance metrics, and the performance against such metrics in 2019, is provided following the tables.

2019 Weights and Awards

President and Chief Executive Officer (Mr. McMullan)		Percent of Base Salary		
Goal	Weight (%)	Threshold (%)	Target (%)	Maximum (%)
Shareholder Focus - Shareholder Activity	34.00	17.00	25.50	34.00
Risk Management - Risk Appetite	33.00	16.50	24.75	33.00
Risk Management - ROE Spread to 3-Month LIBOR	33.00	16.50	24.75	33.00
Total	100.00	50.00	75.00	100.00

Executive Vice President (Messrs. Malmberg and Dozier)		Percent of Base Salary		
Goal	Weight (%)	Threshold (%)	Target (%)	Maximum (%)
Shareholder Focus - Shareholder Activity	34.00	11.90	20.40	28.90
Risk Management - Risk Appetite	33.00	11.55	19.80	28.05
Risk Management - ROE Spread to 3-Month LIBOR	33.00	11.55	19.80	28.05
Total	100.00	35.00	60.00	85.00

Senior Vice President (Messrs. Kazazian, Kovach and O'Shields)		Percent of Base Salary		
Goal	Weight (%)	Threshold (%)	Target (%)	Maximum (%)
Shareholder Focus - Shareholder Activity	25.00	7.50	12.50	17.50
Risk Management - Risk Appetite	25.00	7.50	12.50	17.50
Risk Management - ROE Spread to 3-Month LIBOR	25.00	7.50	12.50	17.50
Individual and Team Goals	25.00	7.50	12.50	17.50
Total	100.00	30.00	50.00	70.00

The Shareholder Focus - Shareholder Activity goal measures the increase in the number of products and services utilized by members during 2019. Performance under this measure was determined by calculating the percentage increase in product utilization as of December 31, 2019, over a product utilization baseline established as of December 31, 2018. The performance goals were 3.98 percent product utilization increase at threshold (1,909), 8.01 percent increase at target (1.983), and 15.63 percent increase at maximum (2,123). This goal was substantially the same for each named executive officer, and performance was determined on an overall Bank-wide basis. As of December 31, 2019, the Bank achieved a shareholder activity performance score of 2,137, representing an increase of 16.39 percent over the 2019 baseline. Based on 2019 performance, the board awarded the maximum level for this goal.

The Risk Management - Risk Appetite goal involves managing the Bank's key risks at appropriate tolerance levels. Under this measure, the board and management defined the Bank's key risks and the tolerance levels with respect to those risks. The Bank then scored each key risk based upon whether the Bank was satisfying the defined tolerance level. If the Bank was performing at or better than the defined tolerance level for all key risks, a risk appetite performance score of 100 was achieved. A deduction was applied to the risk appetite performance score for each key risk performing below the defined tolerance level. The amount that was deducted depended upon the extent of the underperformance. The performance goals were 85.0 percent risk appetite performance score (threshold), 95.0 percent risk appetite performance score (target), and 100 percent risk appetite performance score (maximum). This goal was substantially the same for each named executive officer, and performance was determined on an overall Bank-wide basis. As of December 31, 2019, the Bank achieved a risk appetite performance score of 98.48 percent. Based upon that score, the board awarded between the target and maximum level for this goal.

The Risk Management - ROE Spread to 3-Month LIBOR performance goal relates to the Bank's ROE amount in excess of average three-month LIBOR. This performance measure reflects the Bank's ability to pay quarterly dividends to its members and was established with a sliding scale so that the spread performance metrics become smaller as LIBOR increases. The board of directors could reduce the award for this measure or increase the required ROE spread to LIBOR under certain economic scenarios. For 2019, the performance goals were 275 basis points (threshold), 285 basis points (target), and 305 basis points (maximum). This goal was substantially the same for each named executive officer, and performance was determined on an overall Bank-wide basis. In 2019, the Bank's ROE spread to average three-month LIBOR was 278 basis points. Based upon that calculation, the board awarded between threshold and target level for this goal.

In 2019, the board of directors did not establish individual performance award opportunities for the Bank's president and executive vice presidents. Individual goals for Mr. Kovach, Mr. O'Shields, and Mr. Kazazian focused on information technology initiatives, diversity and inclusion, compliance, and risk management. Based upon performance in 2019, Mr. Kovach, Mr. O'Shields and Mr. Kazazian were awarded the maximum level for these goals.

The following table presents the final award level associated with each performance goal and total award amounts for each named executive officer.

2019 Incentive Compensation Plan Awards

Name	Shareholder Activity (%)	Risk Appetite (%)	ROE Spread to 3-Month LIBOR (%)	Individual /Team Goals (%)	Total Award (%) of Base Salary	Overall Award Level	Total Calculated Award	Deferred Incentive
W. Wesley McMullan	34.00	30.49	18.98	—	83.47	Target-Max	$ 780,414	$ 390,207
Haig H. Kazazian, III	17.50	15.98	9.00	17.50	59.98	Target-Max	219,527	109,763
Kirk R. Malmberg	28.90	25.54	14.03	—	68.47	Target-Max	373,144	186,572
Robert F. Dozier, Jr.[(1)]	—	—	—	—	—	N/A	—	—
Robert S. Kovach	17.50	15.98	9.00	17.50	59.98	Target-Max	248,917	124,459
Reginald T. O'Shields	17.50	15.98	9.00	17.50	59.98	Target-Max	223,575	111,788

(1) Mr. Dozier retired on December 31, 2019 and in accordance with the terms of the Bank's incentive compensation plan, did not receive an incentive award for 2019.

The amount of incentive compensation earned by each of the named executive officers under the ICP, as shown in the "Total Calculated Award" column in the preceding table is reflected under the "Non-Equity Incentive Compensation Plan" column in the Summary Compensation Table below. For the Bank's current named executive officers, the Deferred Incentive portion will be paid, together with positive or negative returns (equal to the Bank's return on equity for the applicable year) over three years (2021-2023) on the following schedule, subject to certain adjustment and forfeiture provisions discussed below:

Deferred Incentive Payout Schedule

Payment Year	Payment
2021	1/3 of balance (± 1-year return)
2022	1/2 of balance (± 2-year return)
2023	Remaining balance (± 3-year return)

Incentive Compensation Plan Award Adjustment or Forfeiture. The named executive officers' ICP awards and Deferred Incentive are subject to adjustment or forfeiture in certain events. Under the terms of the ICP, the board of directors has reserved the right to amend, modify or terminate the ICP, in whole or in part, and to increase, decrease, terminate without penalty or payment, or otherwise modify any ICP award, at any time for any reason or no reason.

The board of directors has the authority to (i) equitably adjust ICP performance measures for a particular year under the ICP to preserve the benefits or potential benefits intended to be made available to the participants for any merger, consolidation, rights offering, separation, reorganization or liquidation or any other change in the capital structure of the Bank and (ii) adjust Earned Awards (as defined in the ICP) for both current and prior years if the board determines in good faith that the amounts of any Earned Awards were based on materially inaccurate financial statements or any other materially inaccurate performance metric criteria as defined in the ICP. The board may, in its sole discretion, decline to adjust the terms of any outstanding Award, as defined, if it determines that such adjustment would violate applicable law or result in adverse tax consequences to the participant or to the Bank.

To ensure continued focus on the Bank's Diversity and Inclusion Plan, the 2019 ICP provides that annual incentive awards to the named executive officers may be reduced by up to 10 percent to the extent that the board of directors, in its sole discretion, determines that certain Bank-wide activity goals related to workforce development, outreach to diverse vendors, and engagement with diverse shareholders have not been achieved.

If as of the time any payment of the Deferred Incentive otherwise would be due, the board of directors has made a good faith determination that the Bank has not achieved certain objective financial performance threshold measures relating to retained earnings (net of accumulated other comprehensive income (loss)), market value of equity/par value of capital stock, regulatory capital to assets ratio, and positive annual net income, the board may in its sole discretion elect to reduce or eliminate such payment of the Deferred Incentive.

If a named executive officer's employment with the Bank terminates for any reason prior to payment of any earned incentive compensation, all remaining payments (including the Deferred Incentive) will be forfeited, subject to certain limited exceptions if the named executive officer dies, becomes disabled, or retires with a combination of age and years of service to the Bank totaling at least 70.

Retirement Benefits

The named executive officers are eligible to participate in certain tax-qualified and non-qualified defined benefit, defined contribution, and deferred compensation plans. These plans are described in more detail below in the sections entitled "Executive Compensation — Pension Benefits" and "— Deferred Compensation."

The Bank's retirement benefit plans are a vital component of the Bank's retention strategy for executive officers, particularly because many other competing organizations provide executive officers with economic benefits based on equity interests in the employer, oftentimes in addition to similar retirement benefits.

Perquisites and Other Benefits

All named executive officers are eligible to participate in the benefit plans that are made available to all employees of the Bank including medical, dental, and vision insurance coverage, group term life and long-term disability insurance coverage, paid vacation, and sick leave. The named executive officers generally participate in these plans on the same basis and terms as all other employees.

The Bank offers its named executive officers a limited number of perquisites, including an annual physical examination, guest travel to certain business functions, business club memberships, and financial planning services. For Mr. McMullan, the Bank also provides an automobile allowance of up to $1,500 per month. Because perquisites generally are limited, the board does not specifically consider perquisites when reviewing total compensation for any of the named executive officers.

Employment Arrangements and Severance Benefits

Other than the specific contractual arrangements discussed below, all Bank employees are employed under an "at will" arrangement. Accordingly, an employee may resign employment at any time, and the Bank may terminate the employee's employment at any time for any reason, with or without cause.

The board of directors may, in its discretion, provide severance benefits to an executive officer in the event of termination of his/her employment. In determining whether severance compensation is appropriate, the board of directors considers both the factors underlying the termination of employment and the employment history of the executive officer. The Bank does not provide a "gross up" benefit on taxes incurred with respect to any severance.

Employment Agreement. The Bank entered into an Employment Agreement with Mr. McMullan, effective January 1, 2014 (Employment Agreement). Under the Employment Agreement, Mr. McMullan's employment with the Bank may be terminated by the Bank with or without "cause," or by Mr. McMullan with or without "good reason," as defined in the Employment Agreement. Unless earlier terminated by either party as provided therein, the Employment Agreement had an initial three-year term and will continue to extend automatically for subsequent one-year periods unless either party elects not to renew. Pursuant to the Employment Agreement, the Bank provides Mr. McMullan with a $1,500 per month automobile allowance. Mr. McMullan is entitled to participate in all incentive, savings, and retirement plans and programs available to senior executives of the Bank. The Employment Agreement also provides for certain severance benefits for Mr. McMullan, which are discussed below under "Potential Payments upon Termination or Change in Control." This severance arrangement was an integral and necessary component of the Bank's strategy to recruit Mr. McMullan to the president and CEO position.

Change in Control Severance Plan. Effective January 1, 2017, the Bank adopted an Executive Change in Control Severance Plan (Severance Plan). The purpose of the Severance Plan is to facilitate the hiring and retention of senior executives capable of executing the Bank's strategic priorities, to ensure their continued dedication to the Bank notwithstanding the possibility of a change in control, and to provide them with certain protection and benefits in the event of certain termination events following a defined change in control of the Bank. The board has designated Messrs. McMullan, Malmberg and Dozier as eligible to participate in the Severance Plan. The Severance Plan is discussed below under "Potential Payments upon Termination or Change in Control."

Report of the Board of Directors

The board of directors of the Bank has reviewed and discussed the Compensation Discussion and Analysis above with management, and based on such review and discussion, the board of directors has determined that the Compensation Discussion and Analysis above should be included in the Bank's Annual Report on Form 10-K.

The board of directors of the Bank has primary responsibility for establishing and determining the Bank's compensation program. Therefore, this report is submitted by the full board of directors.

BOARD OF DIRECTORS

Richard A. Whaley, Chairman	Robert L. Strickland, Jr., Vice Chairman
Brian E. Argrett	Scott C. Harvard
Travis Cosby, III	Jonathan Kislak
Suzanne S. DeFerie	LaSalle D. Leffall, III
R. Thornwell Dunlap, III	Kim C. Liddell
F. Gary Garczynski	Garrett S. Richter
William C. Handorf	John B. Rucker

Executive Compensation

Summary Compensation Tables

The following table presents a summary of cash and other compensation earned by the named executive officers for the years ended December 31, 2019, 2018, and 2017. It is important to read this table, and the other tables that follow, closely and in conjunction with the Compensation Discussion and Analysis. The narratives following the tables and the footnotes accompanying each table are important parts of each table.

2019 Summary Compensation Table

Name and Principal Position (a)	Year (b)	Salary (c)	Bonus (d) [2]	Non-Equity Incentive Plan Compensation (e) [3]	Change in Pension Value and Nonqualified Deferred Compensation Earnings (f) [4]	All Other Compensation (g) [5]	Total (h)
W. Wesley McMullan President and Chief Executive Officer	2019	$ 935,000	$ 100	$ 822,604	$ 4,404,577	$ 79,758	$ 6,242,039
	2018	835,000	2,100	858,804	941,627	75,881	2,713,412
	2017	816,000	100	833,345	2,409,977	74,001	4,133,423
Haig H. Kazazian, III Senior Vice President and Chief Financial Officer	2019	366,000	100	232,009	1,517,000	22,847	2,137,956
Kirk R. Malmberg Executive Vice President and Chief Operating Officer	2019	545,000	100	394,920	1,949,176	37,052	2,926,248
	2018	520,000	100	451,668	548,299	36,343	1,556,410
	2017	508,000	100	422,788	1,008,531	35,736	1,975,155
Robert F. Dozier, Jr.[1] Executive Vice President and Chief Business Officer	2019	525,000	—	—	263,515	1,000,421	1,788,936
	2018	500,000	100	434,257	88,046	115,073	1,137,476
	2017	488,000	100	406,101	105,000	108,482	1,107,683
Robert S. Kovach Senior Vice President and Chief Credit Officer	2019	415,000	100	263,473	553,000	25,206	1,256,779
	2018	405,000	100	293,004	—	25,996	724,100
	2017	399,800	100	291,721	323,000	24,252	1,038,873
Reginald O'Shields Executive Vice President and General Counsel, Chief Compliance and Ethics Officer	2019	372,750	100	236,286	905,000	22,521	1,536,657
	2018	355,000	21,600	256,716	135,000	23,168	791,484

(1) Mr. Dozier retired on December 31, 2019

(2) The amounts in column (d) reflect an annual $100 employee appreciation bonus provided to all employees of the Bank. The Bank provides all employees of the Bank, including the named executive officers, a tax gross-up on this bonus, which amount is included in column (g).

(3) The amounts in column (e) reflect the dollar value of all earnings for services performed during the fiscal years ended December 31, 2019, 2018, and 2017 pursuant to awards under the ICP, even though fifty percent of the ICP awards for each year were subject to mandatory deferral and distribution over three years. As discussed in the Compensation Discussion and Analysis, the 2019 non-equity incentive compensation awards were subject to a 30-day review period and receipt of non-objection by the Finance Agency. The Bank received written non-objection from the Finance Agency on February 21, 2020. The amounts in column (e) also include the dollar value of all interest during each year earned on Deferred Incentive related to ICP awards for prior fiscal years, in the following amounts for 2019: $42,190 for Mr. McMullan, $12,482 for Mr. Kazazian, $21,776 for Mr. Malmberg, $14,556 for Mr. Kovach, and $12,711 for Mr. O'Shields.

(4) The amounts in column (f) reflect the sum of (i) the aggregate change in the actuarial present value of the named executive officer's aggregate pension benefits under the Bank's Pension and Defined Benefit Equalization Plan (DBEP) during each fiscal year, computed as described in footnote (1) to the 2019 Pension Benefits table, and (ii) all "above market" earnings earned under the Bank's non-qualified DCPs. Under SEC rules, "above-market" earnings result when deferrals are credited with interest in excess of 120 percent of the Applicable Federal Rate. The 2019 above-market amounts for Mr. McMullan, Mr. Malmberg, and Mr. Dozier were $44,577, $8,176, and $514, respectively. These plans are described in greater detail below under "Pension Benefits" and "Deferred Compensation."

(5) The amounts in column (g) for 2019 consist of the following amounts:

Name	Bank Contributions under the 401(k) Plan [1]	Matching contributions under the Bank's non-qualified Defined Contribution Benefit Equalization Plan [2]	Perquisite [3]	Tax Gross-ups [4]	Other [5]	Total
W. Wesley McMullan	$ 15,104	$ 40,996	$ 23,615	$ 43	$ —	$ 79,758
Haig H. Kazazian, III	16,800	5,160	844	43	—	22,847
Kirk R. Malmberg	16,800	15,900	4,309	43	—	37,052
Robert F. Dozier, Jr.	28,000	84,412	6,759	—	881,250	1,000,421
Robert S. Kovach	5,746	19,154	263	43	—	25,206
Reginald T. O'Shields	6,021	16,344	113	43	—	22,521

(1) The Bank provided Mr. Dozier with $16,800 in matching 401(k) contributions and $11,200 in automatic 401(k) contributions.

(2) The Bank provided Mr. Dozier with $84,412 in DC BEP contributions as described in the Deferred Compensation discussion.

(3) Perquisites are valued at the actual amounts paid by the Bank, and the value of each perquisite for each executive was less than $25,000. The Bank paid premiums for each named executive officer for the Bank's Business Travel Accidental Death and Dismemberment Policy. The Bank provided Mr. McMullan reimbursement for guest travel to certain business functions, certain activities at business functions, an airline program membership, and a $1,500 per month car allowance. The Bank provided Mr. Malmberg, Mr. Kazazian, Mr. Kovach, and Mr. O'Shields reimbursement for certain activities at business functions. The Bank provided Mr. Dozier reimbursement for executive health benefits, and Mr. Malmberg reimbursement for an airline program membership. The Bank provided Mr. McMullan, Mr. Malmberg, and Mr. Dozier matching contributions in the Bank's Once For All charitable giving program.

(4) The tax gross-up amount represents the Bank's payment of withholding taxes on the $100 employee appreciation bonus provided to all employees of the Bank.

(5) The amount in this column represents a severance payment to Mr. Dozier pursuant to the Agreement and Release, dated September 12, 2019, between the Bank and Robert Dozier, upon the satisfaction of certain conditions.

Awards of Incentive Compensation in 2019

The following table provides information concerning each grant of an award to a named executive officer in 2019 under the ICP.

2019 Grants of Plan-Based Awards

Name (a)	Estimated Future Payouts Under Non-Equity Incentive Plan Awards		
	Threshold (b) [1]	Target (c) [1]	Maximum (d) [1]
W. Wesley McMullan	$ 467,500	$ 701,250	$ 935,000
Haig H. Kazazian, III	109,800	183,000	256,200
Kirk R. Malmberg	190,750	327,000	463,250
Robert F. Dozier, Jr.	183,750	315,000	446,250
Robert S. Kovach	124,500	207,500	290,500
Reginald T. O'Shields	111,825	186,375	260,925

[1] Columns (b-d) reflect threshold, target, and maximum payment opportunities under the Bank's ICP for the fiscal year ended December 31, 2019. The actual amounts earned pursuant to the ICP during 2019 are reported under column (e) of the 2019 Summary Compensation Table. Fifty percent of the actual amount earned is subject to mandatory deferral. For information on these awards, see "Compensation Discussion and Analysis."

Retirement Benefits

Pension Benefits

The 2019 Pension Benefits table below provides information with respect to the Pentegra Plan, which is the Bank's tax-qualified pension plan (Pension Plan), and the Bank's non-qualified Defined Benefit Equalization Plan (DBEP). The table shows the actuarial present value of accumulated benefits as of December 31, 2019, for each of the named executive officers and the number of years of service credited to each named executive under each plan.

Pension Plan

The pension benefits payable under the Pension Plan are based on a pre-established defined benefit formula that provides for an annual retirement allowance and a retirement death benefit. A participant's benefit in the plan vests upon completion of five years of service with the Bank, and the participant then may retire under the plan at the times described below.

Employees hired before July 1, 2005

For participants hired on or before July 1, 2005, the Pension Plan generally provides an annual retirement allowance equal to 2.50 percent of the participant's highest consecutive three-year average compensation for each year of credited service under the plan (not to exceed 30 years). Average compensation is defined as base salary and annual short-term incentive compensation.

For these participants, the standard retirement age is 65, with reduced early retirement benefits available at age 45. If the participant continues to work for the Bank until the sum of the participant's age and years of service with the Bank equals at least 70, the annual benefit payable following retirement is reduced by 1.50 percent for each year that retirement precedes normal retirement age. If the participant terminates employment before the participant's age and years of service with the Bank total 70, the annual benefit payable following retirement is reduced by six percent for each year between age 64 and 60, by four percent for each year between age 59 and 55, and by three percent for each year between age 54 and 45, in each case, that retirement precedes normal retirement age. For these participants, lump sum payments are available beginning at age 50.

Mr. McMullan, Mr. Malmberg, Mr. Kazazian, and Mr. O'Shields participate in the Pension Plan on these terms because they were hired on or before July 1, 2005. Each of them has attained eligibility for immediate early retirement.

Employees hired between July 1, 2005, and February 28, 2011

For participants hired between July 1, 2005, and February 28, 2011, the Pension Plan generally provides an annual retirement allowance equal to 1.50 percent of the participant's highest consecutive five-year average compensation for each year of credited service under the plan (not to exceed 30 years). Average compensation is defined as base salary only. For these participants, the standard retirement age is 65, with reduced early retirement benefits available at age 55. If the participant terminates employment before reaching age 65, the annual benefit payable following retirement is reduced by six percent for each year between age 65 and 60, and by four percent for each year between age 60 and 55, in each case, that retirement precedes normal retirement age. For these participants, lump sum payments are not available, except for Mr. Kovach. Mr. Kovach, who was hired in 2010, participates in the Pension Plan under these terms and has attained eligibility for immediate early retirement. He is eligible to receive a lump sum payment due to his prior service at FHLBank Pittsburgh.

Employees hired on or after March 1, 2011

The Pension Plan was closed to new participants effective March 1, 2011. Accordingly, Mr. Dozier did not participate in the Pension Plan.

DBEP

Payments under the Pension Plan may be limited due to federal tax code limitations. The DBEP exists to restore those benefits that executives otherwise would forfeit due to these limitations. The DBEP operates using the same benefit formula and retirement eligibility provisions as described above under the Pension Plan. Because the DBEP is a non-qualified plan, the benefits received from this plan do not receive the same tax treatment and funding protection as the Pension Plan.

All of the named executive officers participate in the DBEP. Mr. Dozier participated solely in the DBEP because he was hired after March 1, 2011. As approved by the board of directors, Mr. Dozier participated in the DBEP to the same extent as if he were participating in the Pension Plan (as if he was an employee hired between July 1, 2005, and February 28, 2011).

Death Benefits

Death benefits, which do not vary based on date of hire, also are available under the Pension Plan and the DBEP. If an employee dies while in active service, his/her beneficiary is entitled to a lump sum amount equal to the commuted value of 120 monthly retirement payments. If a former employee dies while in retirement, having elected the normal form of retirement benefits, his/her beneficiary also is entitled to a lump sum amount equal to the commuted value of 120 monthly retirement payments less payments received before the former employee died.

2019 Pension Benefits

Name (a)	Plan Name (b)	Number of Years of Credited Service (c)	Present Value of Accumulated Benefit (d) [1]	Payments during last fiscal year (e)
W. Wesley McMullan	Pension Plan	30.00	$ 2,358,000	$ —
	DBEP	30.00	14,222,000	—
Haig H. Kazazian, III	Pension Plan	27.25	2,087,000	—
	DBEP	27.25	2,621,000	—
Kirk R. Malmberg [2]	Pension Plan	22.83	1,988,000	—
	DBEP	22.83	5,284,000	—
Robert F. Dozier, Jr. [3]	Pension Plan	—	—	—
	DBEP	7.50	670,000	—
Robert S. Kovach (2)	Pension Plan	30.00	1,704,000	—
	DBEP	30.00	769,000	—
Reginald T. O'Shields	Pension Plan	16.58	1,055,000	—
	DBEP	16.58	1,535,000	—

(1) The "Present Value of Accumulated Benefit" is the present value of the annual pension benefit that was earned as of December 31, 2019, assuming retirement at age 65. Benefits under the Pension Plan were calculated using a 3.22 percent discount rate; a 2.43 percent discount rate was used to calculate benefits under the DBEP.

(2) In accordance with plan provisions, the years of credited service for Mr. Malmberg include 4.0 years credited for prior service earned while employed by FHLBank Chicago and for Mr. Kovach include 23.8 years credited for prior service earned while employed by FHLBank Pittsburgh. The incremental value of this prior service, as valued in the Bank's DBEP, using the methodology described in note 1, is $931,000 for Mr. Malmberg and $534,000 for Mr. Kovach.

(3) As noted above, Mr. Dozier was not eligible to participate in the Pension Plan.

Deferred Compensation

Each named executive officer of the Bank is eligible to participate in the Bank's non-qualified, elective deferred compensation plan (DCP). Additionally, each named executive officer is also eligible to participate in the Bank's consolidated non-qualified Benefit Equalization Plan (BEP). The BEP includes both a defined contribution component (DCBEP) described below and a defined benefit component (DBEP) described above. Directors are eligible to participate in the DCP but are not eligible to participate in the BEP.

The DCP permits a participant to defer all or a portion of his/her compensation, including base salary and awards under the ICP, and to select the method of determining the earnings on such deferred compensation, based on a range of mutual fund options designed to mirror the Bank's 401(k) Plan. DCP participants also may select an interest crediting rate based on the Bank's return on equity. Distributions from the DCP may be made either in a specific year, whether or not a participant's employment has ended, or at a time that begins at or after the participant's retirement or separation. Participants may elect to receive either a lump sum distribution or annual installment payments over periods ranging from two to five years. The Bank does not match contributions to the DCP. Mr. McMullan, Mr. Malmberg, and Mr. Dozier participated in the DCP for the year ended December 31, 2019.

Named executive officers are permitted to defer up to 40.0 percent of salary under the Bank's 401(k) Plan and the DCBEP. The Bank matches the amount contributed by a participant up to six percent of base salary. For employees hired on or after March 1, 2011, including Mr. Dozier, the Bank automatically contributes four percent of base salary into the 401(k) Plan on behalf of the employee, in addition to the six percent match described above.

The DCBEP, like the 401(k) Plan, is self-directed and provides participants with a range of mutual fund options through the Vanguard Group. Participants earn a market rate of return based on the mutual funds selected. Distributions from the DCBEP begin when a participant's employment has ended. Participants may elect to receive either a lump sum distribution or annual installment payments over periods ranging from two to five years. These plans are designed to encourage additional voluntary savings and to offer a valuable financial planning tool. All Bank contributions to the DCBEP are subject to a two-year vesting period.

The board amended the DCBEP, effective January 1, 2017, to:

- increase the amount that the Bank contributes to Mr. Dozier under the Bank's 401(k) Plan and DCBEP by two percent;
- permit Mr. Dozier to participate in the DCBEP outside of the 401(k) benefit limits imposed by the Internal Revenue Service; and
- provide an additional contribution by the Bank of 12.0 percent of Mr. Dozier's ICP awards to the DCBEP.

The board amended the Benefit Equalization Plan (BEP), effective January 1, 2018, to:

- provide that any executive hired or promoted to the level of senior vice president or higher after January 1, 2018 ("eligible executives"), will not be eligible to receive the defined benefit feature of the BEP and will instead receive a Bank contribution of up to 10.0 percent applied to both annual base pay and ICP award amounts under the defined contribution portion of the BEP;
- provide eligible executives with a contribution equivalent to 10.0 percent of base pay offset by contributions to the 401(k) Plan; and
- provide eligible executives with a contribution equivalent to 10.0 percent of incentive compensation.

The following table presents compensation earned and deferred in 2019, and earnings on, or distributions of, such amounts. In accordance with SEC rules, the amounts shown in the table do not include any amounts in respect of the 401(k) Plan.

2019 Nonqualified Deferred Compensation

Name (a)	Executive Contributions in Last Fiscal Year (b) [1]	Bank Contributions in Last Fiscal Year (c) [2]	Aggregate Earnings In Last Fiscal Year (d) [3]	Aggregate Withdrawals / Distributions (e)	Aggregate Balance at Last Fiscal Year End (f) [4]
W. Wesley McMullan	$ 448,404	$ 40,996	$ 327,435	$ —	$ 3,173,078
Haig H. Kazazian, III	—	5,160	7,455	—	36,342
Kirk R. Malmberg	84,000	15,900	355,761	—	1,830,521
Robert F. Dozier, Jr.	54,890	84,412	70,549	—	406,122
Robert S. Kovach	99,500	19,154	350,237	—	1,636,557
Reginald T. O'Shields	55,550	16,344	119,867	—	617,530

(1) Amounts under column (b) are included in salary reported for 2019 in column (c) of the 2019 Summary Compensation Table.
(2) Amounts under column (c) are included in all other compensation amounts reported for 2019 in column (g) of the 2019 Summary Compensation Table.
(3) Amounts under column (d) reflect actual market returns for mutual funds selected by participants and interest credit received under the Bank's core economic income return on equity interest crediting rate.
(4) To the extent that a participant was a named executive officer in prior years, executive and Bank contributions included in the "Aggregate Balance at Last Fiscal Year End" column have been reported as compensation in the Summary Compensation Table for the applicable year.

Potential Payments upon Termination or Change in Control

McMullan Employment Agreement

Mr. McMullan's Employment Agreement provides that upon the Bank's termination of his employment for any reason other than "cause," or upon Mr. McMullan's termination of his employment for "good reason," the Bank will pay a total of one year's base salary in effect at the date of termination in a lump sum within 30 days after Mr. McMullan executes and delivers a general release of claims to the Bank, plus an amount equal to the amount that would have been payable pursuant to Mr. McMullan's incentive compensation award for the year in which the date of termination occurs, prorated based upon the number of days Mr. McMullan was employed that year. The incentive compensation award is based on the Bank's actual performance for the year in which termination occurs and is payable at the time such incentive compensation awards are paid to other senior executives. In addition, Mr. McMullan is entitled to receive certain healthcare replacement costs and other amounts required to be paid or provided under any other Bank plan, program, policy or practice or contract or agreement.

Under Mr. McMullan's Employment Agreement, "cause" is defined to include Mr. McMullan's failure to perform substantially his duties; his engagement in illegal conduct or gross misconduct injurious to the Bank; a written request from the Finance Agency or any other regulatory agency or body requesting that the Bank terminate his employment; crimes involving a felony, fraud or other dishonest acts; certain other notices from or actions by the Finance Agency; his breach of fiduciary duty or breach of certain covenants in the Employment Agreement; his refusal to comply with a lawful directive from the Chairman of the board of directors or from the board of directors; or his material breach of the Employment Agreement. The Employment Agreement defines "good reason" to include a material diminution in Mr. McMullan's base salary or in his authority; the Bank requiring Mr. McMullan to be based at any office or location other than in Atlanta, Georgia; or a material breach of the Employment Agreement by the Bank.

The following table presents information about potential payments to Mr. McMullan under his Employment Agreement in the event his employment had terminated on December 31, 2019 and a change in control of the Bank had not occurred. He is not entitled to any gross-up payments on taxes incurred with respect to any severance, whether under Section 280G of the tax code or otherwise.

Potential Payments upon Termination

Termination	Severance: 2019 ICP Award	Severance: Deferred Incentive for Prior Periods (1)	Severance: Salary	Medical, Dental, and Vision Insurance Benefits	Pension Benefit Enhancements	Other Perquisites	Total
Resignation without Good Reason	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Involuntary Termination For Cause	—	—	—	—	—	—	—
Involuntary Termination Without Cause	780,414	871,863	935,000	51,220	—	—	2,638,497
Resignation For Good Reason	780,414	871,863	935,000	51,220	—	—	2,638,497

(1) Mr. McMullan has reached a combination of age and years of service to the Bank totaling at least 70.

Pursuant to the Agreement and Release, dated September 12, 2019, between the Bank and Robert Dozier, Mr. Dozier was entitled to a severance payment of $881,250 upon the satisfaction of certain conditions. Mr. Dozier satisfied those conditions and was paid $881,250 on January 17, 2020. None of the other executive officers had a severance arrangement with the Bank in 2019.

The other named executive officers are entitled to receive amounts earned during their terms of employment, regardless of the manner in which their employment terminated, on the same terms generally applicable to all employees of the Bank. These amounts include:

- Severance, if and as determined at the sole discretion of the board.
- Amounts accrued and vested through the Bank's Pension Plan and the DBEP (the Bank's qualified and non-qualified defined benefit plans). Up to three months of incremental service under the Bank's Pension Plan may be granted, in the sole discretion of the board, if an employee is provided with severance pay.
- Amounts accrued and vested through the 401(k) Plan and the DCBEP (the Bank's qualified and non-qualified defined contribution plans) and amounts contributed and associated earnings under the Bank's DCP.
- Accrued vacation and applicable retiree medical benefits and applicable retiree life insurance.

In the event of the death or disability of an employee, including a named executive officer, in conjunction with the benefits above, the employee or his/her beneficiary may receive benefits under the Bank's disability plan or payments under the Bank's life insurance plan, as appropriate. Named executive officers also are entitled to receive death benefit payments under the Pension Plan and the Excess Plan, as described under "Retirement Benefits—Death Benefits."

Change in Control Severance Plan

Effective January 1, 2017, the Bank adopted an Executive Change in Control Severance Plan (Severance Plan).

Overview of the Severance Plan

The Severance Plan provides certain protection and benefits in the event of a Qualifying Termination (as defined below) following a Change in Control (as defined below). The Severance Plan applies to employees or officers who are designated by the Bank's board of directors as participants. The Bank's board designated Messrs. McMullan, Malmberg, and Dozier as participants in the Severance Plan.

Qualifying Termination

"Qualifying Termination" means any separation, termination or other discontinuation of the employment relationship between the Bank and a participant, (A) by the Bank, other than for "cause" (as defined in the Severance Plan); or (B) by the participant, for "good reason" (as defined in the Severance Plan), but does not include a termination resulting from the participant's death or disability.

The Severance Plan defines "cause" to include:

- the participant's failure to perform substantially his/her duties;

- the participant's engagement in illegal conduct or willful misconduct injurious to the Bank;
- the participant's material violation of law or regulation or of the Bank's written policies or guidelines;
- a written request from the Finance Agency requesting that the Bank terminate the participant's employment;
- crimes involving a felony, fraud or other dishonest acts;
- certain other notices from or actions by the Finance Agency;
- the participant's breach of fiduciary duty or breach of certain covenants in the Severance Plan; and
- the participant's refusal to comply with a lawful directive from the CEO or the board of directors.

The Severance Plan defines "good reason" to include:

- a material diminution in the participant's base salary or in his/her duties or authority;
- the Bank requiring the participant to be based at any office or location other than in Atlanta, Georgia; or
- or a material breach of the Severance Plan by the Bank.

Under the terms of the Severance Plan, if there is a Qualifying Termination during the period beginning on the earliest of the date a definitive agreement or order for a Change in Control has been entered, or the effective date of a Change of Control as prescribed by the Finance Agency, and ending, in all cases, twenty-four (24) months following the effective date of the Change in Control, the participant becomes entitled to certain severance payments and benefits.

These payments and benefits include the following:

- The CEO would receive a cash payment equal to 2.5 times his/her annual base salary amount.
- An executive vice president would receive a cash payment equal to 1.75 times his/her annual base salary amount.
- Participants would receive a lump sum cash payment equal to the amount that would have been payable pursuant to the participant's incentive compensation award for the year in which the date of a Qualifying Termination occurs, prorated based on the number of days the participant was employed that year.
- Participants would receive a lump sum cash payment for outplacement assistance in the amount of $7,500.

In addition, the CEO would receive a cash payment equivalent to 24 months of health continuation coverage, and executive vice presidents would receive a cash payment equivalent to 18 months of health continuation coverage.

The Severance Plan defines a "Change in Control" as:

- the merger, reorganization, or consolidation of the Bank with or into, or acquisition of the Bank by, another Federal Home Loan Bank or other entity;
- the sale or transfer of all or substantially all of the business or assets of the Bank to another Federal Home Loan Bank or other entity; or
- a change in the composition of the Bank's board that causes the combined number of member directors from the jurisdictions of Alabama, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina and Virginia to cease to constitute a majority of the Bank's directors; or
- the Bank's liquidation or dissolution.

The payments described above are payable in a lump sum within sixty (60) days following the participant's employment termination date, except the prorated incentive compensation award, which is payable at the time such incentive compensation awards are paid to other senior executives. All payments and benefits are conditioned on the executive having delivered an irrevocable general release of claims against the Bank before payment occurs. In addition, all payments and benefits remain subject to the Bank's compliance with any applicable statutory and regulatory requirements relating to the payment of amounts under the Severance Plan. The Severance Plan requires that an individual execute a participation agreement to become a participant in the Severance Plan. Messrs. McMullan, Malmberg, and Dozier executed a participation agreement to become participants in the Severance Plan, effective January 1, 2017.

The following table presents information about potential payments to Messrs. McMullan, Malmberg and Dozier under the Severance Plan in the event that a Change in Control had occurred and their employment had terminated due to a Qualifying Termination on December 31, 2019. None of Messrs. McMullan, Malmberg and Dozier would be entitled to any gross-up payments on taxes incurred with respect to any severance, whether under Section 280G of the tax code or otherwise.

Potential Payments upon Qualified Termination Following a Change in Control(1)

Cause	2019 ICP Award	Separation Payment	Medical, Dental, and Vision Insurance Benefits	Outplacement Assistance	Total
W. Wesley McMullan	$ 780,414	$ 2,337,500	$ 51,220	$ 7,500	$ 3,176,634
Kirk R. Malmberg	373,144	953,750	38,315	7,500	1,372,709
Robert F. Dozier, Jr.(2)	359,452	918,750	38,315	7,500	1,324,017

(1) Qualifying Termination means a termination without cause or a resignation for good reason. In order to receive severance under the Severance Plan, a Qualifying Termination must occur within 24 months following the effective date of a Change in Control.
(2) Mr. Dozier retired on December 31, 2019. His retirement would not have constituted a Qualifying Termination under the Severance Plan

CEO Pay Ratio Disclosure Rule

The following is a reasonable estimate, prepared under applicable SEC rules, of the ratio of the annual total compensation of the Bank's president and CEO, Mr. McMullan, to the median of the annual total compensation of the Bank's other employees. The Bank identified the median employee in 2019 by examining the 2019 base pay for all 314 individuals, excluding the CEO, who were employed by the Bank on December 1, 2019 (annualized for any permanent full- or part-time employees that were not employed by the Bank for all of 2019). The Bank calculated the annual total compensation for such employee using the same methodology the Bank uses for its named executive officers as set forth in the 2019 Summary Compensation Table included earlier in this Executive Compensation section of the Report. For the year ended December 31, 2019, the Bank's median employee total annual compensation was $209,240; the CEO's total annual compensation was $6,242,039; and the ratio of CEO to median employee compensation was 29.8 to 1.

Under the SEC's rules and guidance, there are numerous ways to determine the median employee for purposes of calculating the pay ratio, and companies may differ in the methods they use, including the employee population sampled, the elements of pay and benefits used, any assumptions made and the use of statistical sampling. In addition, no two companies have identical employee populations or compensation programs, and pay, benefits and retirement plans differ by country even within the same company. As such, the Bank's pay ratio may not be comparable to the pay ratio reported by other companies.

Director Compensation

The FHLBank Act provides that each FHLBank may pay its directors reasonable compensation for the time required of them, and their necessary expenses, in the performance of their duties, subject to approval by the Director. In accordance with the FHLBank Act, the Bank has adopted a policy governing the compensation and travel expense reimbursement provided to its directors. Under this policy, directors receive fees paid for attendance at each meeting of the board of directors and meeting of a committee of the board of directors, as further described below. These fees are subject to the annual caps established under the policy. Directors do not receive separate retainers.

Directors are reimbursed for reasonable Bank-related travel expenses in accordance with Bank policy. In specified instances, the Bank may reimburse a director for the transportation and other ordinary travel expenses of the director's guest; in 2019, these expenses totaled $22,647 in the aggregate.

During 2019, directors received fees for attendance at each board and committee meeting as described below. The following table presents the annual compensation limits applied.

2019 Annual Director Compensation Limits

Title	Amount
Chairman of the Board	$ 130,000
Vice Chairman of the Board	120,000
Chairman of the Audit Committee	115,000
Other Committee Chairmen (excluding Audit and Executive)	110,000
All Other Directors	100,000

Under the 2019 Directors' Compensation Policy, each director had an opportunity to receive a payment of approximately one-seventh of that director's annual cap for attendance at no less than 75.0 percent of the board meeting and meetings of each committee of the board on which the director serves during each interim period. The first interim period began on December 17, 2018 and ended January 24, 2019 (the last day of the first scheduled in-person board meeting for 2019). Each successive interim period began on the calendar day immediately following a scheduled board meeting through and including the day of the next scheduled board meeting, with the seventh interim period ending on December 9, 2019 after the seventh scheduled in-person board meeting. Under the policy, after the end of the seventh interim period and before the seventh payment was made, the governance and compensation committee of the board reviewed the cumulative attendance and performance of each director during 2019 and, in consultation with the chair of the board, recommended to the board a reduction, elimination or increase in the final payment opportunity for each director. No increase could exceed the applicable annual compensation cap.

The following table presents the cash and other compensation earned or paid by the Bank to the members of the board of directors for all services in all capacities during 2019.

2019 Director Compensation

Name (a)	Fees Earned or Paid in Cash (b)	Change in Pension Value and Nonqualified Deferred Compensation Earnings (c) [(1)]	All Other Compensation (d)	Total (e)
Brian E. Argrett	$ 110,000	$ 662	*	$ 110,662
Travis Cosby, III	115,000	—	*	115,000
Suzanne S. DeFerie	110,000	—	*	110,000
R. Thornwell Dunlap, III	110,000	—	*	110,000
F. Gary Garczynski	100,000	—	*	100,000
William C. Handorf	100,000	—	*	100,000
Scott Harvard	100,000	—	*	100,000
Jonathan Kislak	100,000	—	*	100,000
LaSalle D. Leffall, III	100,000	—	*	100,000
Kim C. Liddell	110,000	—	*	110,000
John B. Rucker	110,000	6,178	*	116,178
Robert L. Strickland, Jr.	120,000	—	*	120,000
Richard A. Whaley	130,000	3,368	*	133,368
Garrett S. Richter	100,000	—	*	100,000

[(1)] Directors are eligible to participate in the Bank's DCP. Directors Argrett, Dunlap, Rucker, and Whaley elected to defer compensation for 2019. The amounts in column (c) represent "above market" earnings.

* Director perquisites include premiums paid by the Bank for each director for the Bank's Business Travel Accidental Death and Dismemberment Policy, guest travel, certain activities at business functions, and matching contributions under the Bank's Once For All charitable giving program. For each director, the aggregate amount of such perquisites was less than $10,000.

In September 2019, the board of directors approved the 2020 Directors' Compensation Policy, which is similar to the 2019 policy, with the same annual compensation limits as the 2019 policy, except that the compensation limit for the chairman of the board position was increased to $140,000.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The Bank is a cooperative whose members own substantially all of the outstanding capital stock of the Bank and elect the directors of the Bank. The voting right of members is generally limited to the election of the Bank's board of directors. A member is eligible to vote for the number of open member director seats in the state in which its principal place of business is located, and all members are eligible to vote for the number of open independent director seats. Membership is voluntary, and a member must give notice of its intent to withdraw from membership. A member that withdraws from membership may not acquire shares of any FHLBank before the end of the five-year period beginning on the date of the completion of its divestiture of Bank stock.

The Bank does not offer any compensation plan under which equity securities of the Bank are authorized for issuance. The following table presents the ownership of the Bank's capital stock, which is concentrated within the financial services industry and is stratified across various institution types (in millions).

	Commercial Banks	Credit Unions	Savings Institutions	Insurance Companies	CDFIs	Mandatorily Redeemable Capital Stock	Total
December 31, 2019	$ 3,257	$ 1,048	$ 470	$ 209	$ 4	$ 1	$ 4,989
December 31, 2018	3,656	1,167	469	191	3	1	5,487
December 31, 2017	3,346	1,233	445	128	2	1	5,155
December 31, 2016	3,393	1,100	366	94	2	1	4,956
December 31, 2015	3,557	1,094	368	81	1	14	5,115

The following table presents information about those members that are beneficial owners of more than five percent of the Bank's outstanding capital stock, including mandatorily redeemable capital stock, as of February 29, 2020.

Name and Address	Number of Shares Owned	Percent of Total Capital Stock
Truist Bank 200 W 2nd Street Winston Salem, 27104	9,694,175	19.85
Bank of America, National Association 100 North Tryon Street Charlotte, NC 28255	5,253,649	10.76
Navy Federal Credit Union 820 Follin Lane Vienna, VA 22180	4,042,762	8.28
TIAA, FSB 501 Riverside Avenue Jacksonville, FL 32202	3,680,050	7.54

Additionally, member directors, which comprise a majority of the board of directors of the Bank, are officers or directors of member institutions that own the Bank's capital stock. The following table presents these institutions as of February 29, 2020.

Member Name	City, State	Number of Shares Owned	Percent of Total Capital Stock
First Bank	Southern Pines, NC	157,885	0.32
First Florida Integrity Bank	Naples, FL	13,116	0.03
Community Bankers' Bank	Midlothian, VA	8,449	0.02
First Bank	Strasburg, VA	7,753	0.02
Citizens Bank of Americus	Americus, GA	6,287	0.01
City First Bank of D.C., National Association	Washington, DC	4,792	0.01
First Community Bank of Central Alabama	Wetumpka, AL	4,212	0.01
Countybank	Greenwood, SC	4,076	0.01
1880 Bank	Cambridge, MD	3,440	0.01

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Because the Bank is a cooperative, capital stock ownership is a prerequisite for a member to transact any business with the Bank. The Bank's member directors are officers or directors of member institutions. All directors and any member that holds five percent or more of the Bank's voting securities are classified as related parties under SEC regulations. In the ordinary course of its business, the Bank may transact business with each of the members that has an officer or director serving as a director of the Bank and members that hold five percent or more of the Bank's voting securities. All such transactions:

- have been made in the ordinary course of the Bank's business;
- have been made subject to the same Bank policies as transactions with the Bank's members generally; and
- in the opinion of management, do not involve more than the normal risk of collection or present other unfavorable features.

The Bank has adopted a written related person transaction policy, which requires the Governance and Compensation Committee of the board of directors to review and, if appropriate, to approve any transaction between the Bank and any related person (as defined by applicable SEC regulations). Pursuant to the policy, the committee will review any transaction the Bank would be required to disclose in filings with the SEC in which the Bank is or will be a participant and the amount involved exceeds $120,000, and in which any related person had, has, or will have a direct or indirect material interest. The Bank has exemptive relief, pursuant to an SEC no-action letter, from disclosing certain related person transactions that arise in the ordinary course of the Bank's business. The committee may approve those transactions that are in, or are not inconsistent with, the best interests of the Bank and its shareholders.

In addition, the Bank has a written Code of Conduct applicable to all employees and a Code of Conduct and Ethics for Directors as well as other written policies and procedures that also may apply to or prohibit certain related person transactions.

Director Independence

For a discussion of director independence, refer to Item 10, Directors, Executive Officers and Corporate Governance-Director Independence, Compensation Committee, Audit Committee and Audit Committee Financial Expert.

Item 14. Principal Accountant Fees and Services.

The following table presents the aggregate fees billed (or accrued) to the Bank by PwC (in thousands).

	For the Years Ended December 31,	
	2019	2018
Audit fees[1]	$ 829	$ 802
Audit-related fees[2]	94	50
All other fees[3]	3	3
Total fees	$ 926	$ 855

[1] Audit fees and expenses for the years ended December 31, 2019 and 2018 were for professional services rendered by PwC in connection with the Bank's annual audits and quarterly reviews of the Bank's financial statements.
[2] Audit-related fees and expenses for the years ended December 31, 2019 and 2018 were for certain FHLBank System assurance and related services, certain costs related to the adoption of newly issued accounting guidance, costs related to the Bank's implementation of a new data warehouse system, as well as fees related to PwC's participation at conferences.
[3] All other fees for the year ended December 31, 2019 and 2018 relate to the annual license for PwC's accounting research software and disclosure checklist.

The Bank paid additional fees to PwC in the form of assessments paid to the Office of Finance. The Bank is assessed its proportionate share of the costs of operating the Office of Finance, which includes the expenses associated with the annual audits of the combined financial statements of the FHLBanks. These assessments, which totaled $67,405 and $64,292 in 2019 and 2018, respectively, are not included in the table above.

The Bank is exempt from ordinary federal, state, and local taxation, except employment and real property taxes. No tax-related fees were paid to PwC during the years ended December 31, 2019 and 2018.

The Audit Committee of the board of directors has adopted the Audit Committee Pre-Approval Policy (Pre-Approval Policy). In accordance with the Pre-Approval Policy and applicable law, the Audit Committee pre-approves audit services, audit-related services, tax services, and non-audit services to be provided by the Bank's independent registered public accounting firm. The term of any pre-approval is 12 months from the date of pre-approval unless the Audit Committee specifically provides otherwise. On an annual basis, the Audit Committee reviews the list of specific services and projected fees for services to be provided for the next 12 months and pre-approves services as the Audit Committee deems necessary. Under the Pre-Approval Policy, the Audit Committee has granted pre-approval authority to the Chairman and the Vice-Chairman of the Audit Committee, subject to limitation as set forth in the Pre-Approval Policy. The Chairman or the Vice-Chairman must report any pre-approval decisions to the Audit Committee at its next regularly scheduled meeting. New services that have not been pre-approved by the Audit Committee that are in excess of the pre-approval fee level established by the Audit Committee must be presented to the entire Audit Committee for pre-approval. In the years ended December 31, 2019 and 2018, 100 percent of the audit fees, audit-related fees, and all other fees were pre-approved by the Audit Committee.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) *Financial Statements*. The following financial statements of the Federal Home Loan Bank of Atlanta, set forth in Item 8 above, are filed as part of this Report.

Report of Independent Registered Public Accounting Firm
Statements of Condition as of December 31, 2019 and 2018
Statements of Income for the Years Ended December 31, 2019, 2018, and 2017
Statements of Comprehensive Income for the Years Ended December 31, 2019, 2018, and 2017
Statements of Capital Accounts for the Years Ended December 31, 2019, 2018, and 2017
Statements of Cash Flows for the Years Ended December 31, 2019, 2018, and 2017
Notes to Financial Statements

(b) *Exhibits.* The exhibits listed below are being filed with or incorporated by reference as a part of this Report:

Exhibit No.	Exhibit Description	Form	Exhibit	Dated Filed
3.1	Amended and Restated Organization Certificate of the Federal Home Loan Bank of Atlanta.	8-K	3.1	10/26/12
3.2	Bylaws of the Federal Home Loan Bank of Atlanta (Revised and Restated through October 31, 2019).	8-K	3.1	10/31/19
4.1	Capital Plan of the Federal Home Loan Bank of Atlanta.	8-K	99.2	8/5/11
4.2	Description of the Bank's Capital Stock.			
10.1	Federal Home Loan Bank of Atlanta Benefit Equalization Plan (2018 restatement).*	10-K	10.1	3/8/18
10.2	Amendment One to the Federal Home Loan Bank of Atlanta Benefit Equalization Plan.*	8-K	10.1	1/28/20
10.3	Federal Home Loan Bank of Atlanta Deferred Compensation Plan (2009 revision).*	8-K	10.1	1/9/09
10.4	Form of Officer and Director Indemnification Agreement.*	10-12G	10.5	3/17/06
10.5	Federal Home Loan Bank of Atlanta 2020 Directors' Compensation Policy.*			
10.6	Federal Home Loan Bank of Atlanta Omnibus Annual Incentive Compensation Plan (as amended January 26, 2012).*	10-K	10.8	3/23/12
10.7	Employment Agreement, effective as of January 1, 2014, between the Bank and W. Wesley McMullan.*	10-K	10.6	3/14/14
10.8	Agreement and Release, dated September 12, 2019, between the Bank and Robert Dozier.*	10-Q	10.1	11/8/19
10.9	Federal Home Loan Bank of Atlanta Executive Change in Control Severance Plan, effective January 1, 2017.	10-K	10.7	3/9/17
10.10	Amended and Restated Federal Home Loan Banks P&I Funding and Contingency Plan Agreement, effective as of January 1, 2017, by and among the Office of Finance and each of the Federal Home Loan Banks.	10-K	10.8	3/9/17
10.11	Amended Joint Capital Enhancement Agreement by and among each of the Federal Home Loan Banks.	8-K	99.1	8/5/11
31.1	Certification of the President and Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
31.2	Certification of the Senior Vice President and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
32.1	Certification of the President and Chief Executive Officer and Senior Vice President and Chief Financial Officer pursuant to 18 U.S.C. Section 135, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.+			
99.1	Audit Committee Report.+			
101.INS	XBRL Instance Document - The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document. +			
101.SCH	XBRL Taxonomy Extension Schema Document.+			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.+			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.+			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.+			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.+			

* Denotes management contract or compensatory plan.

+ Furnished herewith.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Federal Home Loan Bank of Atlanta

Date: March 5, 2020	By /s/ W. Wesley McMullan Name: W. Wesley McMullan Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Date: March 5, 2020	By /s/ W. Wesley McMullan Name: W. Wesley McMullan Title: President and Chief Executive Officer
Date: March 5, 2020	By /s/ Haig H. Kazazian III Name: Haig H. Kazazian III Title: Senior Vice President and Chief Financial Officer
Date: March 5, 2020	By /s/ William T. Shaw Name: William T. Shaw Title: Senior Vice President and Controller
Date: March 5, 2020	By /s/ Richard A. Whaley Name: Richard A. Whaley Title: Chair of the Board of Directors
Date: March 5, 2020	By /s/ Robert L. Strickland, Jr. Name: Robert L. Strickland, Jr. Title: Vice Chair of the Board of Directors
Date: March 5, 2020	By /s/ Brian E. Argrett Name: Brian E. Argrett Title: Director
Date: March 5, 2020	By /s/ Travis Cosby, III Name: Travis Cosby, III Title: Director
Date: March 5, 2020	By /s/ Suzanne S. DeFerie Name: Suzanne S. DeFerie Title: Director

Date: March 5, 2020	By /s/ R. Thornwell Dunlap, III Name: Thornwell Dunlap, III Title: Director
Date: March 5, 2020	By /s/ F. Gary Garczynski Name: F. Gary Garczynski Title: Director
Date: March 5, 2020	By /s/ William C. Handorf Name: William C. Handorf Title: Director
Date: March 5, 2020	By /s/ Scott C. Harvard Name: Scott C. Harvard Title: Director
Date: March 5, 2020	By /s/ Jonathan Kislak Name: Jonathan Kislak Title: Director
Date: March 5, 2020	By /s/ LaSalle D. Leffall, III Name: LaSalle D. Leffall, III Title: Director
Date: March 5, 2020	By /s/ Kim C. Liddell Name: Kim C. Liddell Title: Director
Date: March 5, 2020	By /s/ Garrett S. Richter Name: Garrett S. Richter Title: Director
Date: March 5, 2020	By /s/ John B. Rucker Name: John B. Rucker Title: Director

Exhibit 4.2

Description of the Bank’s Capital Stock

The Bank’s capital structure consists solely of Class B stock, par value $100 per share. The Class B stock contains two distinct subclasses, each of which is issued, redeemed, and repurchased at par value. Under the Bank’s Capital Plan, each member is required to maintain a certain minimum investment in Class B stock of the Bank. Each member’s minimum stock requirement is equal to the sum of a “membership” stock component and an “activity-based” stock component. Shares of Subclass B1 Class B stock are issued to meet the membership stock requirement and shares of Subclass B2 Class B stock are issued to meet the activity-based stock requirement.

Subclass B1 Class B Stock

Each member is required to maintain a minimum investment in Subclass B1 shares sufficient to meet its membership stock requirement as long as the institution remains a member of the Bank. As of the date of this report, a member’s membership stock requirement is 0.09 percent (9 basis points) of the member’s total assets, subject to cap of $15 million. From time to time the Bank’s board of directors may adjust the membership stock requirement, including the cap, within specified ranges set forth in the Capital Plan. Under the Capital Plan, the membership stock requirement can range from 0.05 percent (five basis points) to 0.40 percent (40 basis points) of the member’s total assets. The cap can range from $15 million to $35 million. Any adjustment by the board of directors outside these ranges would require an amendment to the Capital Plan and Finance Agency approval. Each member is required to comply promptly with any adjustment to the membership stock requirement. A member may not use shares of Subclass B2 Class B stock to meet its membership stock requirement.

Subclass B2 Class B Stock

Each member is required to maintain a minimum investment in Subclass B2 shares sufficient to meet its activity-based stock requirement as long as the related assets continue to be carried on the Bank’s balance sheet. As of the date of this report, a member’s activity-based stock requirement is the sum of the following items:

- 4.25 percent of the member’s outstanding par value of advances

- 8.00 percent of any outstanding targeted debt/equity investment (such as multifamily residential mortgage loan assets) sold by the member to the Bank on or after December 17, 2004.

The activity-based stock requirement also may include a percentage of any outstanding balance of acquired member assets (such as residential mortgage loan assets), although this percentage was set at zero as of the date of this report.

From time to time, the board of directors may adjust the activity-based stock requirement within specified ranges set forth in the Capital Plan as follows:

- The advances stock requirement can range from 3.50 percent to 6.00 percent

- The acquired member assets stock requirement can range from 0.00 percent to 6.00 percent

- The targeted debt/equity investments stock requirement can range from 6.00 percent to 9.00 percent.

Any adjustment outside the ranges would require an amendment to the Capital Plan and Finance Agency approval. Each member is required to comply promptly with any adjustment to the activity-based stock requirement. A member may not use shares of Subclass B1 Class B stock to meet its activity-based stock requirement.

Dividend Rights

The Bank’s board of directors, in its sole discretion, may declare and direct the Bank to pay dividends on the Class B stock. All outstanding shares of Class B stock participate in any dividend without preference and without distinction between subclasses. Dividends may be paid in the form of cash or capital stock and will be computed based on the amount of time during the relevant quarterly or other period that the Class B stock was outstanding. A former member of the Bank is entitled to receive any dividends attributable to its Class B stock through the date of redemption or repurchase of that stock by the Bank.

Dividends may be paid only from the Bank's current net earnings or retained earnings. The board of directors may not declare a dividend under any one or more of the following circumstances:

- If the Bank's capital position is below its minimum regulatory capital requirement
- If the Bank's capital position will be below its minimum regulatory capital requirement after paying the dividend
- If the principal or interest due on any consolidated obligation issued through the Office of Finance has not been paid in full
- If the Bank becomes a noncomplying FHLBank under Finance Agency regulations as a result of its inability to comply with regulatory liquidity requirements or satisfy its current obligations.

The Bank has adopted a retained earnings target. In addition, pursuant to amendments to the Bank's Capital Plan, effective August 5, 2011, and the Amended Joint Capital Enhancement Agreement by and among each of the FHLBanks, the Bank is required to hold an amount of restricted retained earnings. Dividends may be limited or prohibited in some circumstances under regulatory requirements, Bank Policy and the Capital Plan in light of these requirements.

Repurchase and Redemption Provisions

Excess Stock Repurchases Initiated by the Bank

A member may hold Class B stock in excess of its minimum stock requirement, called excess stock, to the extent it has the legal authority under applicable statutes and regulations, subject to the following provisions.

Repurchases of Membership Stock - Subclass B1 Class B stock

The Bank will recalculate the membership stock requirement of each member at least annually, and no later than March 31 of each year, using financial data as of the prior calendar year-end. In its discretion, the Bank may recalculate any member's membership stock requirement more frequently, using the most recently available financial data. The Bank also will recalculate each member's membership stock requirement on the effective date of any adjustment to the percentage used in calculating this membership stock requirement. If any of these recalculations results in a decrease in the member's membership stock requirement, the Bank, in its sole discretion, may, but is not required to, repurchase any excess shares of Subclass B1 Class B stock held by the member.

Upon termination of membership, any Subclass B1 Class B stock that is not required to meet the former member's membership stock retention requirement is excess stock subject to repurchase by the Bank, in its sole discretion.

Repurchases of Activity-Based Stock - Subclass B2 Class B stock

The Bank will recalculate each member's activity-based stock requirement at the time of any change in the amount of transactions outstanding between the Bank and the member, which can occur daily, and on the effective date of any adjustment to the percentages used in calculating the activity-based stock requirement. If this recalculation results in a decrease to the member's activity-based stock requirement, and the par value of excess shares of Subclass B2 Class B stock held by a member exceeds the excess stock threshold amount, the Bank generally will repurchase some or all of the excess shares of Subclass B2 Class B stock held by that member. The Bank may change this repurchase policy upon notice to the members.

Excess Stock Redemptions Initiated by Members

Under the Bank's Capital Plan, a member may request redemption of its excess stock, payable in cash at par value, upon five years' prior written notice to the Bank. The Bank may, in its sole discretion and at any time, repurchase shares of excess stock referenced in the member's written notice of redemption.

The written notice must indicate the particular subclass(es) and number of shares to be redeemed. The five-year redemption period starts when the Bank receives written notice from the member. A member may not have more than one written notice of redemption outstanding at any one time for the same shares of Class B stock. Following the requested redemption, the member must continue to meet its minimum stock requirement under the Capital Plan.

The member may cancel its redemption request before the end of the five-year redemption period by providing a written cancellation notice to the Bank, subject to a redemption cancellation fee.

If, at the end of the five-year redemption period, the member would fail to meet its minimum stock requirement, the Bank will not redeem the member's Class B stock but will attempt the redemption on each of the following five business days. If the Bank is prevented from redeeming a member's Class B stock during this period for this reason, the redemption notice will be cancelled automatically and the member will be required to pay a redemption cancellation fee.

If the member meets the redemption requirements at the expiration of the five-year redemption period, the Bank will pay to the member in cash the par value of all shares requested to be redeemed, subject to the limitations on redemption discussed below.

Repurchases and Redemptions as a result of Termination of Membership

If a member's membership is terminated, whether voluntarily, involuntarily, or through merger or relocation, the Class B stock generally will be subject to a five-year redemption period.

Limitations on Redemptions and Repurchases

The Bank's authority to redeem or repurchase Class B stock is subject to a number of limitations. Specifically, the Bank will not redeem or repurchase Class B stock if, following the redemption or repurchase, the Bank would fail to meet its minimum regulatory capital requirement or the affected member would fail to meet its minimum stock requirement. Also, the Bank may not redeem or repurchase any Class B stock without the prior written approval of the Finance Agency, if the Finance Agency or the board of directors has determined that the Bank has incurred, or is likely to incur, losses that result in, or are likely to result in, charges against capital creating an other-than-temporary decline in the Bank's total capital that causes the value of the Bank's total capital to fall below the Bank's aggregate amount of Class B stock. This prohibition will apply even if the Bank is in compliance with its capital requirements and will remain in effect for however long the Bank continues to incur such charges or until the Finance Agency determines that such charges are not expected to continue.

The Bank's board of directors, or a committee thereof, temporarily may suspend redemptions and repurchases of Class B stock if it reasonably believes that such continued redemption or repurchase of Class B stock would result in one of the following:

- Cause the Bank to fail to meet its minimum regulatory capital requirement
- Prevent the Bank from maintaining adequate capital against a potential risk that may not be adequately reflected in its minimum regulatory capital requirement or
- Otherwise prevent the Bank from operating in a safe and sound manner.

The Bank must notify the Finance Agency of any determination to suspend redemptions. The Bank will not repurchase any Class B stock without prior written approval of the Finance Agency during the period that redemptions are suspended under this provision.

The Bank may not redeem or repurchase shares of Class B stock from any member if the principal and interest due on any consolidated obligation issued through the Office of Finance has not been paid in full, or, under certain circumstances, if the Bank becomes a non complying FHLBank under Finance Agency regulations as a result of its inability to comply with regulatory liquidity requirements or to satisfy its current obligations.

In addition, on any day that the sum of all repurchases of excess stock equals or exceeds an amount that would cause the Bank to fall below its minimum regulatory capital requirements, the Bank will suspend repurchase activities until either it can honor those repurchases in full or the board of directors establishes *pro rata* repurchase procedures.

Pursuant to amendments to the Bank's Capital Plan, effective August 5, 2011, and the Amended Joint Capital Enhancement Agreement by and among each of the FHLBanks, the Bank is required to hold an amount of restricted retained earnings. Redemptions and repurchases of Class B stock are prohibited in the event the Bank's total capital, defined as retained earnings, the amount paid-in for capital stock, the amount of any general allowance for losses, and the amount of other instruments that the Finance Agency has determined to be available to absorb losses incurred by the Bank, falls below the Bank's aggregate paid-in amount of capital stock.

Voting Rights

The members are entitled to vote only in connection with the election of directors in accordance with the FHLBank Act and Finance Agency regulations. Voting rights in regard to the election of directors are set forth at 12 C.F.R. Section 1261. The Bank calculates annually each member's minimum stock requirement for purposes of determining its voting shares based on the member's total assets, outstanding advances, acquired member assets, and targeted debt/equity investments carried on the Bank's balance sheet on the preceding December 31, which is the "record date" for such determination. Each member is eligible to vote for all open elective director seats in the state in which its principal place of business is located. Each member is entitled to cast one vote for each share of Class B stock that the member was required to hold as of the record date in each election for each open elective director seat in the state in which the member's principal place of business is located. In cases in which there are multiple directorships to be filled for a voting state, a member may not aggregate all of its available votes for a single candidate. In a single directorship election, a member may not split its votes between director candidates but must cast all of its votes available election for a single candidate. The number of votes that each member may cast for each directorship may not exceed the average number of shares of Class B stock required to be held as of the record date by all members located in that state. For example, if a member holds 100 shares of Class B stock, but the average number of shares of Class B stock held by all members in such member's state of residence is 75 shares, the member may vote only 75 shares in each open elective director seat election in the state in which its principal place of business is located. Excess stock is not "required stock" and thus is not counted in determining the number of votes that a member may cast. A former member that was a member as of the record date is entitled to vote in the election of directors in accordance with the FHLBank Act and regulations. There are no voting preferences associated with any class or subclass of Class B stock.

Classification of Board of Directors/Cumulative Voting

Each member of the Bank's board of directors serves a four-year term, and the Board's terms are staggered. There are no classes of directors, and there is no cumulative voting.

Liquidation Rights

Subject to the authority of the Finance Agency, in the event of liquidation of the Bank, after making provision for the payment of the Bank's liabilities, the Bank will pay each member the par value of its Class B stock. However, if sufficient funds are not available to make payment for all of the Class B stock outstanding, payment will occur on a *pro rata* basis among the holders of Class B stock in proportion to the number of shares of Class B stock owned by each. In addition, upon liquidation, any undistributed retained earnings, paid-in surplus, undivided profits, equity reserves, and other assets not otherwise identified will be allocated in the same manner. In the event that the Bank merges with or consolidates into another FHLBank, the holders of Class B stock are entitled to the rights and benefits set forth in the agreement of merger or consolidation approved by the board of directors and the Finance Agency. None of the shares of Class B stock has any right of preference in liquidation.

Preemptive Rights

Members are not entitled to any preemptive rights.

Restrictions on Transfer

The Capital Plan prohibits transfers of Class B stock between members or any other parties except in connection with a merger or consolidation with another institution. Any such transfer will be at par value.

Modification of Rights of Holders

Both the Bank's board of directors and the Finance Agency must approve any amendment to the Capital Plan. Members' consent is not required to amend the Capital Plan. The Bank will provide written notice to members at least five business days prior to the effective date of any amendment.

Exhibit 10.5

[FHLBank Logo]

Department: Corporate Secretary	Name of Policy: 2020 Directors' Compensation Policy	Department Policy Number: 1
Effective Date: January 1, 2020	**Supersedes Revisions:** January 1, 2019	**Authority to Approve and Amend:** Board of Directors
Next Review Date: December 2020	**Department Policy Owner:** Corporate Secretary	

This policy is designed to set forth expectations for attendance by members of the board of directors of the Federal Home Loan Bank of Atlanta (Bank) at meetings of the board (including eight scheduled board meetings in 2020) and board committees and to ensure that each director is reasonably compensated for the time required of him or her in the performance of official Bank business.

A. Director Compensation

1. Effective January 1, 2020, the following annual compensation limits shall apply:

a)	Chairman of the Board	$140,000
b)	Vice Chairman of the Board	$120,000
c)	Chairman of the Audit Committee	$115,000
d)	Other Chairmen of Committees (excluding Audit and Executive)	$110,000
e)	All Other Directors	$100,000

2. Each director shall have the opportunity to be paid an amount equal to approximately one-seventh of such director's annual limit for actual attendance at each scheduled in-person board meeting and board committee meetings, as further described in Section B. The seventh payment opportunity shall be subject to adjustment as further described in Section C.

3. In determining the above director compensation levels, the board considered a comparative compensation study prepared by a third party with expertise in compensation matters, the compensation of directors of other Federal Home Loan Banks in 2019, including median compensation and the provision for payment of certain expenses described in Sections D.3 and D. 4. The board established the above director compensation levels after evaluating the foregoing data and considering the time that directors are expected to devote to Bank business and the need to ensure the Bank's future ability to attract qualified directors. The compensation levels reflect the board's assessment of appropriate and comparable pay that will allow the Bank to recruit and retain highly qualified directors and compensate them for the time required in performing their duties.

B. Attendance

1. Each director is strongly encouraged to attend all meetings of the board and board committees on which the director serves, and is expected to attend no less than 75 percent of all such meetings each year.

2. The Bank will pay a fee only for a director's actual attendance at no less than 75 percent of the board meetings (including scheduled board meetings, new director orientation, joint meetings of the Affordable Housing Advisory Council and board or committee, board strategy sessions, and board teleconferences) and meetings of each committee of the board (including any ad hoc committee established by the board for a specific purpose) on which the director serves during each interim period, as identified below. In the event two or more committees on which a director serves are scheduled to meet concurrently, only one committee meeting will be required for the purpose of calculating the director's attendance. Interested directors are not required to attend board or committee meetings that are devoted exclusively to director election matters. As ex officio members of all committees, the Chairman and Vice Chairman of the board are encouraged, but not required, to attend committee teleconferences and unscheduled committee meetings (meetings added after the 2020 board and committee meeting schedule is approved by the board).

3. The first interim period shall begin on December 10, 2019 and end on the last day of the first scheduled in-person board meeting for 2020. Each successive interim period shall begin on the calendar day immediately following a scheduled board meeting through and including the day of the next scheduled board meeting, with the seventh interim period ending on December 13, 2020 after the seventh scheduled in-person board meeting, as follows:

Interim Period	Start Date	End Date
First	December 10, 2019	January 31, 2020
Second	February 1, 2020	April 30, 2020
Third	May 1, 2020	May 21, 2020
Fourth	May 22, 2020	July 30, 2020
Fifth	July 31, 2020	September 26, 2020
Sixth	September 27, 2020	October 29, 2020
Seventh	October 30, 2020	December 13, 2020

The foregoing start and end dates will be adjusted to correspond to any changes in the board meeting schedule.

4. Participation by telephone for in-person meetings is discouraged unless necessary to attain a quorum. The Bank will not pay a separate fee for a director's attendance at meetings other than those described above.

5. The Bank will not advance the payment of fees to any director.

C. Performance

1. Compensation paid to directors must reflect the time required of them in the performance of official Bank business. The time required will be measured principally by attendance and participation at board and board committee meetings, as described above, and secondarily by performance of other duties. These other duties include time spent: (a) preparing for board

meetings; (b) chairing meetings as appropriate; (c) reviewing materials sent to directors on a periodic basis; (d) attending other related events such as management conferences, FHLBank System meetings, and director training; and (e) fulfilling the responsibilities of directors.

2. Before the seventh payment is made, the Governance and Compensation Committee (GCC) shall review the cumulative attendance and performance of each director during 2020 and, in consultation with the Chairman, recommend to the board a reduction, elimination or increase in the final payment opportunity. No increase shall exceed the applicable compensation limit. In the event a director serves on the board for only a portion of a calendar year, the final payment for such director shall be subject to the same cumulative attendance and performance review through the director's final date of service.

D. Expenses

1. In accordance with the Bank's normal reimbursement policy, the Bank will reimburse a director's travel expenses and any registration fees incurred in connection with attendance at any board or board committee meeting, the Council of FHLBanks' directors conference, PricewaterhouseCoopers' audit committee conference, any seminar or event specifically identified in the director education plan, any meeting or event that Bank management invites a director to attend in order to engage with shareholders or otherwise to represent the Bank's interests, and provided the director is the Bank's designated representative, meetings of the FHLBank Chairs/ Vice Chairs and Council of FHLBanks' board of representatives. Please consult the Bank's Travel and Entertainment Policy for a more detailed explanation regarding expense reimbursement.

2. The Bank will reimburse a director's registration fees and travel expenses incurred in connection with any other meeting, hearing, ceremony, continuing education seminar, or other event only if the Chairman determines that the meeting is relevant to the Bank's business activities or the director's duties as a board member and the director attends the meeting at the request of, or with the approval of, the Chairman. The Vice Chairman shall approve all such fees and expenses for the Chairman. These amounts will be reimbursable to the extent provided for such purpose in the Bank's annual budget and in accordance with the Bank's Travel and Entertainment Policy. The Bank will not pay a fee for a director's participation in these types of activities, and in accordance with 12 C.F.R. Part 1261, the Bank will not reimburse directors for entertainment expenses at these events.

3. The Bank will pay the transportation and other reasonable and ordinary travel expenses, including meals and incidental activities, of one guest of a director to attend board or shareholder meetings only as specified in advance by the Bank.

4. A board member may invite a guest to Bank-sponsored board dinners or receptions held in connection with board meetings at the expense of the Bank, so long as such guest otherwise pays his or her own transportation and travel expenses.

5. The Bank may provide directors other limited benefits and limited travel perquisites as specified in advance by the Bank.

6. Amounts paid by the Bank for any of the foregoing director or guest expenses will be reported as compensation to the director to the extent of and in compliance with applicable Internal Revenue Service laws and regulations and such expenses are in addition to the compensation limits identified in Section A above. Therefore, a director's total annual compensation limit shall consist

of (1) annual compensation set forth in Section A above and (2) payment for such reasonable and ordinary guest expenses and other items set forth in Sections D.3 and D.5 above.

EXHIBIT 31.1

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, W. Wesley McMullan, certify that:

1. I have reviewed this annual report on Form 10-K of the Federal Home Loan Bank of Atlanta;

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: March 5, 2020

/s/ W. Wesley McMullan

W. Wesley McMullan
President and Chief Executive Officer

EXHIBIT 31.2

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Haig H. Kazazian III, certify that:

1. I have reviewed this annual report on Form 10-K of the Federal Home Loan Bank of Atlanta;

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: March 5, 2020

/s/ Haig H. Kazazian III

Haig H. Kazazian III

Senior Vice President and
Chief Financial Officer

EXHIBIT 32.1

Certification Pursuant to 18 U.S.C. Section 1350,
as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the annual report on Form 10-K of the Federal Home Loan Bank of Atlanta (the "Registrant") for the period ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), W. Wesley McMullan, as President and Chief Executive Officer of the Bank, and Haig H. Kazazian III, as Senior Vice President and Chief Financial Officer of the Bank, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: March 5, 2020	/s/ W. Wesley McMullan
	W. Wesley McMullan
	President and Chief Executive Officer
Date: March 5, 2020	/s/ Haig H. Kazazian III
	Haig H. Kazazian III
	Senior Vice President and Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.

A signed original of this written statement has been provided to the Registrant and will be retained by the Registrant and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 99.1

Audit Committee Report

March 5, 2020

The Audit Committee operates under a written charter adopted by the Board of Directors. The Audit Committee Charter is available on the governance section of the Bank’s website at http://www.fhlbatl.com.

The Audit Committee assists the Board of Directors in fulfilling its responsibility to oversee management’s implementation of the Bank's financial reporting process and the audits of the Bank’s financial statements and internal control over financial reporting.

The Bank’s management is responsible for preparing the Bank's financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP) and applicable laws and regulations, establishing and maintaining internal controls over financial reporting, and evaluating the effectiveness of such internal controls over financial reporting. The Bank’s independent registered public accounting firm (independent auditor) is responsible for auditing the Bank's financial statements in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB) and the U.S. Government Accountability Office, and for expressing an opinion on the conformity of the financial statements with such standards. The Bank’s independent auditor is also responsible for auditing the Bank’s internal controls over financial reporting in accordance with such standards and for expressing an opinion on the Bank’s internal controls over financial reporting.

The Audit Committee assists the Board of Directors in fulfilling its responsibility to oversee management's implementation of the Bank’s financial reporting process and the audits of the Bank’s financial statements and its internal controls over financial reporting. In this regard, the Audit Committee meets periodically with management and the Bank’s internal auditor and independent auditor. The Audit Committee discusses with the Bank’s internal auditor and the independent auditor the overall scope and plans for their respective audits. The Audit Committee meets with the Bank’s internal auditor and the independent auditor, with and without management present, to discuss the results of their examinations, their evaluations of the Bank's internal controls, and the overall quality of the Bank's financial reporting. The Audit Committee reviews significant audit findings, if any, together with management's responses thereto.

The Audit Committee is directly responsible for the appointment, compensation, retention and oversight of the Bank’s independent auditor. As part of fulfilling this responsibility, the Audit Committee engages in an annual evaluation of, among other things, the independent auditor’s qualifications, competence, integrity, expertise, performance, independence and communications with the Audit Committee, and whether such firm should be retained for the upcoming year's audit.

The Bank is one of 11 district Federal Home Loan Banks (FHLBanks) that, together with the Federal Home Loan Banks Office of Finance (Office of Finance), comprise the Federal Home Loan Bank System (FHLBank System). Each FHLBank operates as a separate entity with its own management, employees and board of directors, and each is regulated by the Federal Housing Finance Agency. The Office of Finance has responsibility for the issuance of consolidated obligations on behalf of the FHLBanks, and for publishing combined financial reports of the FHLBanks. Accordingly, the FHLBank System has determined that it is optimal to have the same independent registered public accounting firm to coordinate and perform the separate audits of the Office of Finance and annual financial statements of each FHLBank and the Office of Finance's annual combined financial report. The FHLBanks and Office of Finance cooperate in selecting and evaluating the performance of the independent auditor, but the responsibility for the appointment of and oversight of the independent auditor remains solely with the audit committees of each FHLBank and the Office of Finance.

PricewaterhouseCoopers LLP (PwC) has been the independent auditor for the FHLBank System and the Bank since 1990. In connection with the appointment of the Bank's independent auditor, the Audit Committee's evaluation included consultation with the audit committees of the other FHLBanks and the Office of Finance. Specific considerations included:

- an analysis of the risks and benefits of retaining the same firm as independent auditor versus engaging a different firm, including consideration of:
  - PwC's engagement audit partner, engagement quality review partner and audit team rotation;
  - PwC's tenure as the Bank's and the FHLBank System's independent auditor;
  - benefits associated with engaging a different firm as independent auditor; and
  - potential disruption and risks associated with changing the Bank's independent auditor.
- the firm's depth and breadth of understanding of the Bank's business, operations, and accounting policies and practices;
- PwC's historical and recent performance on the Bank's audit, including the results of an internal survey of PwC service and quality;
- an analysis of PwC's known legal risks and significant proceedings;
- external data relating to audit quality and performance, including recent PCAOB audit quality inspection reports on PwC and its peer firms; and
- the appropriateness of PwC's fees, on both an absolute basis and as compared to its peer firms.

Audit fees represent fees for professional services provided in connection with the audit of the Bank's annual financial statements and internal control over financial reporting and reviews of the Bank's quarterly financial statements, regulatory filings, consents and other SEC matters. The Audit Committee has reviewed and approved the fees paid to the independent auditor for audit, audit-related and other services, and has determined that PwC is independent.

In its oversight role, the Audit Committee reviewed and discussed the Bank's audited financial statements and its internal controls over financial reporting with management and with PwC as the Bank's independent auditor for the year ended December 31, 2019. Management and PwC indicated that the Bank's financial statements as of and for the year ended December 31, 2019 were fairly stated in accordance with GAAP and that the Bank's internal controls over financial reporting were effective as of December 31, 2019. The Audit Committee discussed with PwC and management the significant accounting policies used and significant estimates made by management in the preparation of the Bank's audited financial statements, and the overall quality of the Bank's financial statements and management's financial reporting process. The Audit Committee and PwC also discussed any issues deemed significant by PwC or the Audit Committee, including the matters required to be discussed pursuant to PCAOB Auditing Standard No. 1301: *Communications with Audit Committees,* the rules of the Securities Exchange Commission (SEC), and other applicable regulations.

PwC has provided to the Audit Committee written disclosures and the letter required by applicable requirements of the PCAOB regarding the independent auditor's communications with the Audit Committee concerning independence, and the Audit Committee discussed with PwC the firm's independence.

Based on its review of the audited financial statements and the various discussions referred to above, the Audit Committee recommended to the Board of Directors that the Bank's audited financial statements be included in the Bank's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, for filing with the SEC.

Submitted by the Audit Committee,

2020 AUDIT COMMITTEE MEMBERS:
Travis Cosby, III, Chairman
LaSalle D. Leffall, III, Vice Chairman
Brian E. Argrett
Suzanne S. DeFerie
R. Thornwell Dunlap, III
William C. Handorf
Richard A. Whaley
Robert L. Strickland, Jr.