FEDERAL HOME LOAN BANKS

Combined Financial Report
for the Year Ended December 31, 2015

This Combined Financial Report provides financial information on the Federal Home Loan Banks. Investors should use this Combined Financial Report with other information provided by the Federal Home Loan Banks when considering whether or not to purchase Federal Home Loan Bank consolidated bonds and consolidated discount notes (collectively referred to as consolidated obligations).

Consolidated obligations are the joint and several obligations of all Federal Home Loan Banks, even though each Federal Home Loan Bank is a separately chartered entity with its own board of directors and management. This means that each individual Federal Home Loan Bank is responsible for the payment of principal and interest on all consolidated obligations issued by the Federal Home Loan Banks. There is no centralized, system-wide management or oversight by a single board of directors of the Federal Home Loan Banks.

Federal Home Loan Bank consolidated obligations are not obligations of the United States and are not guaranteed by either the United States or any government agency.

The Securities Act of 1933, as amended, does not require the registration of consolidated obligations; therefore, no registration statement has been filed with the U.S. Securities and Exchange Commission. Neither the U.S. Securities and Exchange Commission, nor the Federal Housing Finance Agency, nor any state securities commission has approved or disapproved of these securities or determined if this report is truthful or complete.

Carefully consider the risk factors provided in this Combined Financial Report. Neither the Combined Financial Report nor any offering materials provided on behalf of the Federal Home Loan Banks describe all the risks of investing in Federal Home Loan Bank consolidated obligations. Investors should consult with their financial and legal advisors about the risks of investing in these consolidated obligations.

This Combined Financial Report is available on the Federal Home Loan Banks Office of Finance web site at www.fhlb-of.com. This web site address is provided as a matter of convenience only, and its contents are not made part of this report and are not intended to be incorporated by reference into this report.

Investors should direct questions about Federal Home Loan Bank consolidated obligations or the Combined Financial Report to the Federal Home Loan Banks Office of Finance at (703) 467-3600.

This Combined Financial Report was issued on March 25, 2016.

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Consolidated obligations issued under the Federal Home Loan Banks' Global Debt Program may be listed on the Euro MTF market of the Luxembourg Stock Exchange. The Luxembourg Stock Exchange has allocated the number 2306 to the Federal Home Loan Banks' Global Debt Program for listing purposes. Under the Federal Home Loan Banks' agreement with the underwriter(s) of a particular series of consolidated obligations, any series of consolidated obligations listed on the Luxembourg Stock Exchange may be delisted if the continuation of the listing has become unduly onerous in the opinion of the issuer, and the issuer has agreed with the underwriter(s) that it will use reasonable efforts to list the consolidated obligations on another stock exchange.

EXPLANATORY STATEMENT ABOUT FEDERAL HOME LOAN BANKS COMBINED FINANCIAL REPORT

The Federal Home Loan Banks (FHLBanks) are government-sponsored enterprises (GSEs), federally-chartered but privately capitalized and independently managed. The FHLBanks together with the Federal Home Loan Banks Office of Finance (Office of Finance), the fiscal agent of the FHLBanks, comprise the FHLBank System.

The Office of Finance is responsible for preparing the Combined Financial Report of the FHLBanks. Each FHLBank is responsible for the financial information and underlying data it provides to the Office of Finance for inclusion in the Combined Financial Report. The Office of Finance is responsible for combining the financial information it receives from each of the FHLBanks.

The FHLBanks Combined Financial Report is intended to be used by investors in consolidated obligations (consolidated bonds and consolidated discount notes) of the FHLBanks as these are the joint and several obligations of all FHLBanks. This Combined Financial Report is provided using combination accounting principles generally accepted in the United States of America. This combined presentation in no way indicates that these assets and liabilities are under joint management and control as each individual FHLBank manages its operations independently.

Because of the FHLBank System's structure, the Office of Finance does not prepare consolidated financial statements. Consolidated financial statements are generally considered to be appropriate when a controlling financial interest rests directly or indirectly in one of the enterprises included in the consolidation. This is the case in the typical holding company structure, where there is a parent corporation that owns, directly or indirectly, one or more subsidiaries. However, the FHLBanks do not have a parent company that controls each of the FHLBanks. Instead, each of the FHLBanks is owned by its respective members and former members.

Each FHLBank is a separately chartered cooperative with its own board of directors and management and is responsible for establishing its own accounting and financial reporting policies in accordance with accounting principles generally accepted in the United States of America (GAAP). Although the FHLBanks work together in an effort to achieve consistency on significant accounting policies, the FHLBanks' accounting and financial reporting policies and practices are not necessarily identical because alternative policies and presentations are permitted under GAAP in certain circumstances. Statements in this report may be qualified by a term such as "generally," "primarily," "typically," or words of similar meaning to indicate that the statement is generally applicable, but may not be applicable to all FHLBanks or transactions as a result of their different business practices and accounting and financial reporting policies under GAAP.

An investor may not be able to obtain easily a system-wide view of the FHLBanks' business, risk profile, and financial information because there is no centralized, system-wide management or centralized board of director oversight of the individual FHLBanks. This decentralized structure is not conducive to preparing disclosures from a system-wide view in the same manner that is generally expected of U.S. Securities and Exchange Commission (SEC) registrants. For example, a conventional Management's Discussion and Analysis is not provided in this Combined Financial Report; instead, this report includes a "Financial Discussion and Analysis" prepared by the Office of Finance using information provided by each FHLBank.

Each FHLBank is subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and must file periodic reports and other information with the SEC. Each FHLBank prepares an annual financial report, filed on SEC Form 10-K, and quarterly financial reports, filed on SEC Form 10-Q. Those reports contain additional information that is not contained in this Combined Financial Report. An investor should review available information on individual FHLBanks to obtain additional detail on each FHLBank's business, risk profile, and accounting and financial reporting policies. FHLBank financial reports are made available on the web site of each FHLBank and on the SEC's web site at www.sec.gov. This web site address is provided as a matter of convenience only, and its contents are not made part of this report and are not intended to be incorporated by reference into this report.

BUSINESS

General Information

The 11 FHLBanks are GSEs, organized under the authority of the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act). The Office of Finance is a joint office of the FHLBanks established to facilitate the issuance and servicing of debt for the FHLBanks, known as consolidated obligations, and to prepare the quarterly and annual combined financial reports of the FHLBanks. The FHLBanks and the Office of Finance are regulated by the Federal Housing Finance Agency (FHFA). (See *Audits and Examinations* - *FHLBanks' Regulator* for more information regarding the FHFA.)

The mission of the FHLBanks is to provide financial products and services to their members and housing associates, including, but not limited to, secured loans known as advances, that assist and enhance their financing of: (1) housing, including single-family and multi-family housing serving consumers at all income levels; and (2) community lending. (See *Business - Other Mission-Related Activities* for additional information.) FHFA regulations require each FHLBank's board of directors to have in effect, at all times, a strategic business plan that describes how the business activities of that FHLBank will achieve the mission of FHLBanks.

The FHLBanks serve the public by providing a readily available, low-cost source of funds to FHLBank members through advances. These funds may be used for residential mortgages, community investments, and other services for housing and community development. In addition, some of the FHLBanks provide members and housing associates with a means of enhancing liquidity by purchasing home mortgages through mortgage programs developed for their members. Under these programs, the FHLBanks purchase mortgage loans from members and housing associates. Members can also borrow from an FHLBank to fund low-income housing, helping the members satisfy their regulatory requirements under the Community Reinvestment Act. Finally, some of the FHLBanks offer their members a variety of services, including:

- correspondent banking, which includes security safekeeping, wire transfers, and settlements;
- cash management;
- letters of credit; and
- derivative intermediation.

Table 1 - FHLBanks' Asset Composition

	December 31, 2015		December 31, 2014	
Cash	$ 14,289	1.5%	$ 26,421	2.9%
Investments(1)	273,684	28.2%	270,217	29.6%
Advances	634,022	65.4%	570,726	62.5%
Mortgage loans held for portfolio, net	44,585	4.6%	43,563	4.8%
Other assets	2,773	0.3%	2,416	0.2%
Combined total assets	$ 969,353	100.0%	$ 913,343	100.0%

(1) Investments consist of interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, trading securities, available-for-sale securities, and held-to-maturity securities.

Each FHLBank's funding is principally obtained from consolidated obligations, which are debt instruments issued through the Office of Finance on behalf of the FHLBanks. Each FHLBank is jointly and severally liable with the other FHLBanks for all consolidated obligations issued. Consolidated obligations are not obligations of the United States and are not guaranteed by either the United States or any government agency. Additional funds are provided by member deposits and the issuance of capital stock.

Table 2 - FHLBanks' Liability and Capital Composition

	December 31, 2015		December 31, 2014	
Deposits	$ 8,533	0.9%	$ 9,064	1.0%
Consolidated obligations				
Discount notes	494,055	51.0%	362,303	39.7%
Bonds	411,927	42.5%	486,031	53.2%
Total consolidated obligations	905,982	93.5%	848,334	92.9%
Mandatorily redeemable capital stock	745	0.1%	2,631	0.3%
Other liabilities	6,023	0.5%	6,311	0.7%
Total liabilities	921,283	95.0%	866,340	94.9%
Total GAAP capital(1)	48,070	5.0%	47,003	5.1%
Combined total liabilities and capital	$ 969,353	100.0%	$ 913,343	100.0%

(1) The FHLBanks' combined regulatory capital-to-assets ratio was 5.10% at December 31, 2015, and 5.43% at December 31, 2014. (See *Note 17 - Capital* to the accompanying combined financial statements for details on regulatory capital requirements.)

The FHLBanks are cooperatives that are privately and wholly owned by their members and former members. Each FHLBank operates as a separate entity within a defined geographic region of the country, known as its district, with its own board of directors, management, and employees. As a condition of membership, each member must purchase and maintain capital stock. To the extent declared by an FHLBank's board of directors, a stockholder may receive dividends on its investment in capital stock from the earnings of its FHLBank.

Membership in an FHLBank is voluntary and is generally limited to federally-insured depository institutions, insurance companies, and community development financial institutions. A community development financial institution is eligible to become a member if it has been certified by the U.S. Department of the Treasury (U.S. Treasury). Eligible institutions include community development loan funds, community development venture capital funds, and state-chartered credit unions without federal insurance. (See *Market for Capital Stock and Related Stockholder Matters - Table 6 - Membership by Type of Member,* which presents FHLBank membership.) Eligible institutions may generally only become a member of the FHLBank whose district includes the location of the institution's principal place of business. Some financial institution holding companies may have one or more subsidiaries, each of which may be a member of the same or a different FHLBank.

The FHLBanks are cooperative institutions, and each FHLBank conducts its credit and mortgage program businesses almost exclusively with its members and housing associates. An FHLBank may also have investments in interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, commercial paper, and certificates of deposit, and may also execute mortgage-backed securities and derivative transactions, with members or their affiliates. All investments are transacted at then-current market prices without preference to the status of the counterparty or the issuer of the investment as a member, non-member, or affiliate. The FHLBanks manage their primary objective of fulfilling their public purpose by enhancing the value of membership for member institutions. The value of membership may be derived from access to readily available credit and other services from the FHLBanks and the value of the cost differential between an FHLBank's advances and other potential sources of funds, as well as the potential for dividends received on a member's investment in an FHLBank's capital stock.

In keeping with their cooperative philosophy, the FHLBanks generally earn a narrow net interest spread and historically have returned a portion of their net income to their stockholders in the form of dividends. Accordingly, the FHLBanks' net income and balance of retained earnings are relatively small as compared to total assets and total liabilities.

The primary source of revenue for the FHLBanks is interest income earned on advances, mortgage loans held for portfolio, and investments. The primary items of expense for the FHLBanks are interest paid on consolidated obligations; operating expenses, including employee compensation and benefits; and Affordable Housing Program assessments. The FHLBanks may also recognize non-interest gains and losses, such as net gains (losses) on trading securities, net gains (losses) on derivatives and hedging activities, and net gains (losses) on debt extinguishments. A key driver of net interest income and net income is the return the FHLBanks earn on invested member capital because there is no related interest expense.

Advances

The FHLBanks provide liquidity to members and housing associates through secured loans known as advances. Each FHLBank makes advances based on the security of mortgage loans and other types of eligible collateral pledged by the borrowing institutions. It also makes advances based on the creditworthiness and financial condition of these institutions. (See *Financial Discussion and Analysis - Risk Management - Credit Risk - Advances* for additional information on advances collateral.) Access to FHLBank advances can reduce the amount of low-yielding liquid assets a member would otherwise hold to ensure the same amount of liquidity. Advances are the FHLBanks' largest asset category on a combined basis, representing 65.4% and 62.5% of combined total assets at December 31, 2015 and 2014. Because members may originate loans that are not sold in the secondary mortgage market, FHLBank advances can serve as a funding source for a variety of mortgages, including those focused on very low-, low-, and moderate-income households. In addition, FHLBank advances can provide interim funding for those members that choose to sell or securitize their mortgages. FHLBank advances can also be a source of funding to smaller lenders that may not have access to all of the funding options available to large financial institutions.

FHLBank credit products also aid members in asset and liability management. The FHLBanks can offer advances that have amortization schedules that are structured to match the maturity and payment characteristics of mortgage loans. These advances can reduce a member's interest-rate risk associated with holding long-term, fixed-rate mortgages. In addition, an FHLBank may make commitments for advances to a member covering a predefined period. This program aids members and the FHLBanks in cash flow planning and enables members to reduce funding risk.

The FHLBanks offer specialized programs that provide members with access to below-market interest rate advances to create affordable homeownership and rental opportunities, and for commercial and economic development activities. (See *Business - Other Mission-Related Activities* for more information.)

Each FHLBank develops its advance programs to meet the particular needs of its members and offers a wide range of fixed- and variable-rate advance products, with different maturities, interest rates, payment characteristics, and optionality.

Advance Products

- Fixed-Rate Advances. These advances are available over a variety of terms and are used to fund both the short- and long-term liquidity needs of borrowers. Typically, interest is paid monthly or quarterly and the principal is paid at maturity.

- Variable-Rate Advances. These advances are used to fund both short- and long-term liquidity needs of borrowers. Variable-rate advances have interest rates that reset periodically based on the London Interbank Offered Rate (LIBOR) or other standard indices, or consolidated discount note rates. Typically, interest is paid monthly or quarterly and the principal is paid at maturity.

- Hybrid Advances. These advances contain a one-time option to embed either a floor or cap at any time during the life of the advance and may be either fixed- or variable-rate at the time of issuance.

- Convertible Advances. These advances allow an FHLBank to convert an advance from one interest-payment term structure to another. When issuing convertible advances, an FHLBank may purchase put options from a member that allow that FHLBank to convert the fixed-rate advance to a variable-rate advance at the current market rate or another structure after an agreed-upon lockout period. A convertible advance carries a lower interest rate than a comparable-maturity fixed-rate advance without the conversion feature. Variable- to fixed-rate convertible advances have a defined lockout period during which the interest rates adjust based on a spread to LIBOR. At the end of the lockout period, these advances may convert to fixed-rate advances.

- Amortizing Advances. These advances are medium- or long-term loans with amortization schedules. In addition, certain amortizing advances have amortization schedules that are structured to match the payment characteristics of a mortgage loan or portfolio of mortgage loans. The principal and interest are repaid monthly, quarterly, semi-annually, or annually over the term of the advances. Amortizing advances may be fully amortizing to the maturity date, or may have a balloon payment due at maturity.

- Overnight Advances. These advances are used primarily to fund the short-term liquidity needs of borrowers. An overnight advance may automatically renew until the member pays down the advance, or it may mature on the next business day. Interest rates are set daily.

In addition to these advance products, the FHLBanks' advance programs may include products with embedded option features, such as interest-rate caps and floors and call and put options, advances with non-standard interest-rate indices, forward starting advances, and advances with a combination of these features.

Advances to Housing Associates

The FHLBanks are permitted to provide advances to housing associates (including state and local housing authorities) that are approved mortgagees under Title II of the National Housing Act and that meet the following requirements:

- is a chartered institution having succession;
- is subject to the inspection and supervision of some governmental agency;
- its principal activity in the mortgage field consists of lending its own funds;
- its financial condition is such that advances may be safely made to the housing associate; and
- if the non-member is a state housing financing agency (as defined by FHFA regulation), it shall provide satisfactory evidence that it functions as a source of mortgage loan financing in that state or for the Indian or Alaskan Native community.

Housing associates are not subject to certain provisions applicable to members under the FHLBank Act. For example, they are not required or permitted to purchase capital stock in an FHLBank. However, the regulatory lending requirements that apply to members generally also apply to housing associates. Advances to housing associates represented approximately 0.1% of total advances outstanding at par value at both December 31, 2015 and 2014.

Standby Letters of Credit

An FHLBank issues standby letters of credit on behalf of its members to support certain obligations of the members to third-party beneficiaries. These standby letters of credit are subject to the same collateralization and borrowing limits that are applicable to advances. 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 an FHLBank is required to make a payment for a beneficiary's draw, the payment amount is converted into a collateralized advance to the member.

Investments

The FHLBanks maintain investment portfolios for liquidity purposes and to generate additional earnings. This investment income bolsters the FHLBanks' capacity to meet their commitments to affordable housing and community investment. Investments represented 28.2% and 29.6% of the FHLBanks' combined total assets at December 31, 2015 and 2014.

The FHLBanks maintain short-term investment portfolios, which may provide funds to meet the credit needs of their members and to maintain liquidity. Within the portfolio of short-term investments, the FHLBanks have unsecured credit exposure on certain investments. These portfolios may include:

- interest-bearing deposits;
- securities purchased under agreements to resell;
- federal funds sold;
- U.S. Treasury obligations;
- commercial paper;
- certificates of deposit; and
- GSE obligations.

The FHLBanks maintain long-term investment portfolios primarily to provide additional liquidity and to earn interest income. These investments generally provide the FHLBanks with higher returns than those available on short-term investments.

FHFA regulations prohibit the FHLBanks from investing in certain types of securities and limit the FHLBanks' investment in mortgage-backed securities (MBS) and asset-backed securities (ABS). (See *Financial Discussion and Analysis - Risk Management - Credit Risk - Investments* and *Financial Discussion and Analysis - Combined Financial Condition - Investments* for information on these restrictions and limitations.)

Mortgage Loans

An FHLBank may have programs to purchase mortgage loans from members or housing associates called participating financial institutions (PFIs). The primary programs are the Mortgage Purchase Program (MPP) and the Mortgage Partnership Finance® (MPF®) Program ("Mortgage Partnership Finance," "MPF," and "MPF Xtra" are registered trademarks of the FHLBank of Chicago). Through the MPP and MPF Program, an FHLBank invests principally in qualifying 5-year to 30-year conventional and government-guaranteed or -insured fixed-rate mortgage loans and participations in pools of these mortgage loans, secured by one-to-four family residential properties. Government-guaranteed or -insured mortgage loans are guaranteed or insured by the Federal Housing Administration, the Department of Veterans Affairs, the Rural Housing Service of the Department of Agriculture, or the U.S. Department of Housing and Urban Development (HUD).

The MPP and MPF Program were developed to support the FHLBanks' housing mission, diversify their assets, and provide an additional source of liquidity to their members. As such, these programs serve as a secondary mortgage structure for those FHLBank members originating mortgage loans that they choose to sell into the secondary mortgage market rather than hold in their own loan portfolios.

At December 31, 2015, the FHLBank of Atlanta was not accepting additional master commitments to acquire loans for its own portfolio or purchasing additional mortgage loans under either the MPP or MPF Program. The FHLBank of Des Moines was not accepting additional master commitments to purchase mortgage loans under the MPP at December 31, 2015, and expects the balance of existing loans, acquired through the merger with the FHLBank of Seattle, to decrease as they are paid off. The FHLBank of Dallas had a master commitment to purchase mortgage loans under the MPF Program at December 31, 2015, and resumed acquiring mortgage loans under the MPF Program in the first quarter of 2016. The remaining FHLBanks continue to have the ability to purchase both conventional and government-guaranteed or -insured fixed-rate mortgage loans.

At December 31, 2015 and 2014, the FHLBanks had invested in MPP loans and MPF loans in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Mortgage loans held for portfolio represented 4.6% and 4.8% of the FHLBanks' combined total assets at December 31, 2015 and 2014.

Under the MPP and MPF Program, each FHLBank manages the interest-rate risk, prepayment option risk, and liquidity risk of the fixed-rate mortgage loans in which it holds an interest, while the PFI manages the origination and servicing activities. For conventional mortgage loans held in an FHLBank's portfolio, each FHLBank holding an interest and the PFI selling or originating the mortgage loan share in the credit risk pursuant to a master commitment as the PFI is required to provide a measure of credit-loss protection to the FHLBank(s) holding interests in loans generated by the PFI. For government-guaranteed or -insured mortgage loans, the servicer provides and maintains a guarantee or insurance from the applicable government agency. The servicer is responsible for compliance with all government agency requirements and for obtaining the benefit of the applicable guarantee or insurance with respect to defaulted government-guaranteed or -insured mortgage loans. Any losses incurred on these government-guaranteed or -insured mortgage loans that are not recovered from the issuer or the guarantor are absorbed by the servicer. (See *Note 11 - Allowance for Credit Losses* - *Credit Enhancements* to the accompanying combined financial statements and *Financial Discussion and Analysis - Risk Management - Credit Risk - Mortgage Loans Held for Portfolio* for a detailed discussion of the credit enhancement and risk sharing arrangements and loan product information for these programs.)

MPP

Each participating FHLBank may acquire mortgage loans from its approved PFIs, which can also be third-party servicers for the FHLBank's MPP. Each MPP FHLBank is responsible for operating its own program, including the marketing and funding of MPP loans, and establishing the loan origination, underwriting, and servicing criteria of the loans acquired through its MPP. An MPP FHLBank neither services the acquired loans, nor owns any servicing rights. However, an MPP FHLBank must approve any servicer, including a member-servicer, and any transfers of servicing to third parties. Effective November 1, 2015, each MPP FHLBank engaged BNY Mellon as the MPP master servicer. JPMorgan Chase Bank was the MPP master servicer through October 31, 2015.

MPF Program

One or more MPF FHLBanks may acquire or participate in all or a portion of the acquired mortgage loans from a PFI of another MPF FHLBank. The FHLBank of Chicago acts as master servicer ("MPF Provider") for the MPF Program and provides programmatic and operational support to the MPF FHLBanks and each of their PFIs. In this regard, the FHLBank of Chicago has engaged a vendor for master servicing, Wells Fargo Bank, National Association, which monitors the PFIs' compliance with the MPF Program requirements and issues periodic reports to the FHLBank of Chicago. As of December 31, 2015, there were eight MPF Program portfolio products. Seven of these eight products (MPF Original, MPF 125, MPF Plus (or its variation, MPF 35), MPF Government, MPF Xtra, MPF Direct, and MPF Government MBS) are closed loan products in which an MPF FHLBank purchases loans that have been acquired or have already been closed by the PFI with its own funds. The remaining loan product, MPF 100, is no longer offered by the MPF FHLBanks for new loan originations. MPF 100 loans were acquired as table-funded loans whereby the MPF FHLBank funded and originated the loans because the PFI acted as the agent for the MPF FHLBank.

Unlike other conventional MPF Program products, under the MPF Xtra, the MPF Direct, and the MPF Government MBS products, the FHLBank of Chicago purchases eligible MPF loans from PFIs located in its district and in other MPF FHLBank districts. PFIs are not required to provide credit enhancement and do not receive credit enhancement fees in connection with these three off-balance sheet mortgage loan products. Upon purchase from PFIs, the FHLBank of Chicago concurrently sells mortgage loans to Fannie Mae under the MPF Xtra product and to third-party investors under the MPF Direct product. Under the MPF Government MBS product, the FHLBank of Chicago aggregates government-guaranteed or -insured mortgage loans in order to issue securities guaranteed by Ginnie Mae.

Consolidated Obligations

Consolidated obligations consist of consolidated bonds and consolidated discount notes, which are debt instruments issued through the Office of Finance. Consolidated obligations are the principal funding source used by the FHLBanks to make advances and to purchase mortgage loans and investments. Consolidated obligations outstanding represented 93.5% and 92.9% of the FHLBanks' combined total liabilities and capital at December 31, 2015 and 2014.

The desired maturity of the FHLBanks' funding needs generally drives the decision whether to use consolidated bonds or consolidated discount notes. All consolidated obligations are issued through the Office of Finance on behalf of the FHLBanks. The Office of Finance can issue consolidated obligations only when an FHLBank provides a request for and agrees to accept the funds. An FHLBank is generally prohibited by regulation from purchasing, directly or indirectly, securities from the initial issuance of consolidated obligations. The FHFA and the Secretary of the Treasury have oversight over the issuance of FHLBank debt.

The capital markets have generally considered the FHLBanks' consolidated obligations to be agency debt. As a result, although the U.S. government does not guarantee the FHLBanks' debt, the FHLBanks have traditionally had ready access to funding at relatively favorable rates. The FHLBanks' ability to access the capital markets through the issuance of consolidated obligations, using a variety of debt structures and maturities, allows the FHLBanks to manage their balance sheets effectively and efficiently.

Credit Ratings. Consolidated obligations are currently rated Aaa/P-1 by Moody's and AA+/A-1+ by S&P. These ratings reflect the FHLBanks' status as GSEs and indicate that these rating agencies believe the FHLBanks have the capacity to meet their commitments to pay principal and interest on consolidated obligations. The FHLBanks' consolidated obligations have historically received the same credit rating as the government bond credit rating of the United States, even though the consolidated obligations are not obligations of the United States. These ratings have not been affected by rating actions taken with respect to individual FHLBanks. Investors should note that a rating issued by a nationally recognized statistical rating organization is not a recommendation to buy, sell, or hold securities, and that the ratings may be revised or withdrawn by a nationally recognized statistical rating organization at any time. Investors should evaluate the rating of each nationally recognized statistical rating organization independently.

Interest Rate. Consolidated obligations can be issued with either fixed-rate coupon payment terms or variable-rate coupon payment terms that use a variety of indices for interest-rate resets, including the federal funds effective rate, LIBOR, and others. When consolidated obligations are issued with variable-rate coupon payment terms that use the federal funds effective rate, the FHLBanks typically simultaneously enter into derivatives that effectively convert the federal funds effective rate to LIBOR. The federal funds effective rate is based on transactional data relating to the federal funds sold market. In the aggregate, the FHLBanks may comprise a significant percentage of the federal funds sold market, including the brokered portion, at any one time. However, each FHLBank manages its investment portfolio separately. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements.)

Derivative Transactions. To meet the expected demand of certain investors in consolidated obligations, both fixed-rate and variable-rate consolidated bonds may contain features that result in complex coupon payment terms and call or put options. When these consolidated obligations are issued, the FHLBanks typically enter into derivatives containing offsetting features that effectively convert the terms of the consolidated bond to better match the interest-rate risk management objectives of the issuing FHLBank(s). Each FHLBank 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.

Other Transactions and Services. Certain securities dealers and banks or their affiliates enter into other transactions with, and perform other services for, the FHLBanks. These services include the purchase and sale of investment securities. In some cases, some or all of the net proceeds from an issue of consolidated obligations may be loaned to a member that is affiliated with the securities dealer involved in underwriting that issue.

Joint and Several Liability. Although each FHLBank is primarily liable for its portion of consolidated obligations (i.e., those issued on its behalf), each FHLBank is also jointly and severally liable with the other FHLBanks for the payment of principal and interest on all consolidated obligations of each of the FHLBanks. The FHFA, 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 that 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 that consolidated obligation, FHFA regulations provide that the paying FHLBank is entitled to reimbursement from the non-complying FHLBank for any payments made on its behalf and other associated costs (including interest to be determined by the FHFA). However, if the FHFA determines that the non-complying FHLBank is unable to satisfy its repayment obligations, then the FHFA may allocate the outstanding liabilities of the non-complying FHLBank among the remaining FHLBanks on a pro-rata basis in proportion to each FHLBank's participation in all consolidated obligations outstanding. The FHFA reserves the right to allocate the outstanding liabilities for the consolidated obligations between the FHLBanks in any other manner it may determine to ensure that the FHLBanks operate in a safe and sound manner.

Regulatory Requirements. FHFA regulations require that each FHLBank maintain the following types of assets, free from any lien or pledge, in an amount at least equal to that FHLBank's participation in all consolidated obligations outstanding:

- cash;
- obligations of, or fully guaranteed by, the United States;
- secured advances;
- mortgages, which 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 (e.g., securities that a fiduciary or trust fund may purchase under the laws of the state in which the FHLBank is located).

Any assets subject to a lien or pledge for the benefit of the holders of any issue of consolidated obligations are treated as if they were free from lien or pledge for purposes of compliance with these regulations. In addition, each FHLBank must adhere to the leverage limits set by the FHLBank Act and regulatory limits set by the FHFA. At December 31, 2015, each FHLBank was in compliance with these requirements.

Consolidated Discount Notes

Investor demand for short-term securities (one year or less) may be met through FHLBank discount note programs. Discount notes may be offered to the market through the window or through regularly scheduled competitive auctions. Discount notes issued through the window are generally available with same day, next business day, and two or more business day settlement. Discount notes issued through the auction are available with next business day settlement. Rates and maturity categories for the window are set frequently and announced publicly on Reuters and through other major wire services. Auction rates and maturity categories are announced publicly during the auction process on Reuters and other major wire services.

On a daily basis, through the discount note window, FHLBanks may request that specific amounts of consolidated discount notes with specific maturity dates be offered by the Office of Finance for sale through certain securities dealers. These consolidated discount notes have a maturity range of one day to one year, are generally issued at or below par, and mature at par. The Office of Finance commits to issue consolidated discount notes on behalf of the requesting FHLBanks after dealers submit orders for the specific consolidated discount notes offered for sale. The FHLBanks receive funding based on the time of their request, the rate requested for issuance, the trade date, the settlement date, and the maturity date. However, an FHLBank may receive less than requested (or may not receive any funding) because of investor demand and competing FHLBank requests for the particular funding that the FHLBank is requesting.

Twice weekly, one or more of the FHLBanks may also request that specific amounts of consolidated discount notes with fixed maturities of four, eight, 13, and 26 weeks be offered by the Office of Finance through single-price (Dutch) auctions conducted with securities dealers in the consolidated discount note selling group. Issuance is contingent on FHLBank demand for funding with these terms. The FHLBanks may decide not to offer one or more of these maturities, or skip an auction entirely, if there is no need for these funds. The consolidated discount notes offered for sale through Dutch auction are not subject to a limit on the maximum costs the FHLBanks are willing to pay. Bids will be accepted from the lowest bid rate until the auction size is met, and all winning bids will be awarded at the highest bid rate accepted. The FHLBanks receive funding based on their requests at the highest bid rate accepted. If the bids submitted are less than the total of the FHLBanks' requests, an FHLBank receives funding based on that FHLBank's regulatory capital relative to the regulatory capital of other FHLBanks offering consolidated discount notes.

Consolidated Bonds

Consolidated bonds are issued primarily to raise intermediate- and long-term funds for the FHLBanks. Consolidated bonds generally carry fixed- or variable-rate payment terms and have maturities ranging from one month to 30 years. They can be issued and distributed through negotiated or competitive bidding (auction) transactions with approved underwriters or bidding group members.

<u>Negotiated Transactions.</u>

Reverse Inquiry. The FHLBanks issue fixed-rate noncallable (bullet), floating rate, callable, step-up/step-down, and other types of bonds through negotiated bond transactions. These transactions are flexible and can be investor-customized with different interest-rate characteristics, terms, and currencies (for bonds issued under the Global Debt Program). Underwriters contact the Office of Finance or the FHLBanks directly if there is a bond structure they need to meet investor demand.

Mandated Global. The FHLBanks issue large, liquid bullet bonds through the Global Debt Program (mandated global bullets) to expand their pool of investors, while diversifying their funding sources. Mandated global bullets are issued through a formal dealer syndicate following pre-announced calendar issuance dates. The FHLBanks and the Office of Finance maintain a debt issuance process for scheduled issuance of mandated global bullets. As part of this process, management from each FHLBank will determine and communicate a firm commitment to the Office of Finance for an amount of scheduled mandated global bullet debt to be issued on its behalf. If the FHLBanks' orders do not meet the minimum debt issue size, each FHLBank receives an allocation of proceeds equal to either the larger of the FHLBank's commitment or the ratio of the individual FHLBank's regulatory capital to total regulatory capital of all of the FHLBanks. If the FHLBanks' commitments exceed the minimum debt issue size, then the proceeds are allocated based on relative regulatory capital of the FHLBanks, with the allocation limited to either the lesser of the allocation amount or the actual commitment amount. The FHLBanks can, however, pass on any scheduled calendar slot and decline to issue any mandated global bullet consolidated bonds upon agreement of at least eight of the FHLBanks.

Competitive Bidding (Auction) Transactions.

TAP Issue Program. The FHLBanks use the TAP Issue Program to issue fixed-rate, noncallable bonds. This program uses specific maturities that may be reopened daily through competitive auctions with a designated TAP bidding group. The goal of the TAP Issue Program is to aggregate frequent smaller fixed-rate funding needs into a larger bond issue that may have greater market liquidity.

Callables. American-style callable bonds are auctioned daily through the callable bidding group members.

Mandated Global Reopenings. Individual mandated global bullet bonds can be reopened to meet additional demand on any scheduled calendar slot.

Deposits

The FHLBanks offer demand and overnight deposit programs to members and qualifying non-members. In addition, certain FHLBanks offer short-term interest-bearing deposit programs to members, and in certain cases, qualifying non-members. The FHLBank Act allows each FHLBank to accept deposits from:

- its members;
- any institution for which it is providing correspondent services;
- other FHLBanks; and
- other U.S. government instrumentalities.

Deposit programs, although not as significant as other funding sources, provide some of the funding resources for the FHLBanks. To a much lesser extent than consolidated obligations, deposits also provide funding for advances, mortgage loans, and investments. At the same time, they offer members a low-risk earning asset that satisfies their regulatory liquidity requirements. Deposits represented 0.9% and 1.0% of the FHLBanks' combined total liabilities and capital at December 31, 2015 and 2014.

Capital, Capital Rules, and Dividends

Capital Structure

The Gramm-Leach-Bliley Act amended the FHLBank Act to permit each FHLBank to issue one or two classes of capital stock, each with sub-classes. Class A capital stock (Class A stock) is redeemable on six months written notice from a member and Class B capital stock (Class B stock) is redeemable on five years written notice from a member. If a member withdraws its membership from an FHLBank, it may not acquire shares of any FHLBank for five years after the date on which its divestiture of capital stock is completed. This restriction does not apply if the member is transferring its membership from one FHLBank to another FHLBank on an uninterrupted basis. The FHFA's regulation that implemented a capital structure for the FHLBanks, as required by the Gramm-Leach-Bliley Act, also established risk-based and leverage capital requirements for the FHLBanks. (See *Note 17 - Capital* to the accompanying combined financial statements.)

Capital Adequacy

Each FHLBank is required to ensure that it operates in a safe and sound manner, with sufficient permanent capital and reserves to manage risks that arise in the operations and management of that FHLBank. The FHLBanks are subject to the following three regulatory capital requirements:

- risk-based capital;
- total regulatory capital; and
- leverage capital.

Risk-Based Capital. The Gramm-Leach-Bliley Act defines permanent capital for each FHLBank as the amount paid-in for Class B stock, plus the amount of an FHLBank's retained earnings, as determined in accordance with GAAP. Mandatorily redeemable capital stock is considered capital for regulatory purposes. Each FHLBank must maintain at all times permanent capital in an amount at least equal to the sum of its credit risk, market risk, and operations risk capital requirements, all of which are calculated in accordance with the rules and regulations of the FHFA.

Credit Risk. Each FHLBank's credit risk capital requirement shall equal the sum of its credit risk capital charges for all assets, off-balance sheet items, and derivative contracts. These computations are based on, among other requirements, the credit risk percentages assigned to each item as required by the FHFA.

Market Risk. Each FHLBank's market risk capital requirement shall equal the sum of the market value of its portfolio at risk from market movements, primarily interest rates, that could occur during times of market stress plus the amount, if any, by which the current market value of its total capital is less than 85% of its book value of total capital.

Each FHLBank must calculate the market value of its portfolio at risk and the current market value of its total capital by using either an internal market risk model or internal cash flow model approved by the FHFA. Although each FHLBank models its own market risk, the FHFA has reviewed and approved the modeling approach and underlying assumptions used by each FHLBank and reviews these modeling approaches on an ongoing basis.

Operations Risk. Each FHLBank's operations risk capital requirement shall at all times equal 30% of the sum of its credit risk and market risk capital requirements. The FHFA can approve a reduction in this percentage if an FHLBank meets alternative requirements.

<u>Total Regulatory Capital.</u> The Gramm-Leach-Bliley Act specifies a four percent minimum total regulatory capital-to-assets ratio. Capital for regulatory capital adequacy purposes under the Gramm-Leach-Bliley Act is defined as the sum of each FHLBank's:

- permanent capital;
- amounts paid-in for Class A stock;
- general loss allowance, if consistent with GAAP and not established for specific assets; and
- other amounts from sources determined by the FHFA as available to absorb losses.

<u>Leverage Capital.</u> Each FHLBank is required to maintain at all times a leverage capital-to-assets ratio of at least five percent. Leverage capital is defined as the sum of permanent capital weighted 1.5 times and all other capital without a weighting factor.

The FHFA may require an FHLBank to maintain greater minimum capital levels than are required based on FHFA rules and regulations. Each FHLBank was in compliance with FHFA capital requirements at December 31, 2015.

Summary of Individual FHLBank's Capital Plan Structure

<u>Single Class of Class B Stock.</u> Each of the FHLBanks of Cincinnati and San Francisco offers a single class of Class B stock. Each of these FHLBanks requires its members to maintain a membership and/or activity-based stock balance based on the terms of its capital plan.

<u>Sub-Classes of Class B Stock.</u> Each of the FHLBanks of New York, Pittsburgh, Atlanta, Indianapolis, Chicago, Des Moines, and Dallas offers two sub-classes of Class B stock, which represent either membership or activity-based stock requirements based on the terms of the respective FHLBank's capital plan. The two sub-class Class B stockholders may or may not have the same voting rights and dividend rates, depending on the terms of the respective FHLBank's capital plan.

<u>Class A and Class B Stock.</u> Each of the FHLBanks of Boston and Topeka may offer a single series of Class A stock and a single series of Class B stock, although the FHLBank of Boston has not issued, and does not intend to issue, any Class A stock at this time. Usage of Class A stock and Class B stock to meet membership and activity-based requirements, as well as dividend rates and voting rights for each class of stock, would be determined based on the terms of the respective FHLBank's capital plan.

Capital Classification Determination

The FHFA has implemented the prompt corrective action provisions of the Housing and Economic Recovery Act of 2008, as amended (Housing Act). The FHFA rule defined four capital classifications for the FHLBanks: adequately capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized. The FHFA issued a regulation implementing the prompt corrective action provisions that apply to FHLBanks that are not deemed to be adequately capitalized. The FHFA determines each FHLBank's capital classification on at least a quarterly basis. If an FHLBank is determined to be other than adequately capitalized, that FHLBank becomes subject to additional supervisory authority by the FHFA. Before implementing a reclassification, the Director of the FHFA is required to provide that FHLBank with written notice of the proposed action and an opportunity to submit a response. Each FHLBank is classified by the FHFA as adequately capitalized as of the date of the FHFA's most recent notification to each FHLBank. For a discussion of an individual FHLBank's capital classification, see that FHLBank's periodic report filed with the SEC.

Mandatorily Redeemable Capital Stock

An FHLBank generally reclassifies capital stock subject to redemption from capital to a mandatorily redeemable capital stock liability upon expiration of a grace period, if applicable, after a member exercises a written redemption right, or gives notice of intent to withdraw from membership, or attains non-member status by merger or acquisition, relocation, charter termination, or involuntary termination of membership. Shares of capital stock meeting these conditions are reclassified to mandatorily redeemable capital stock at fair value. The fair value of capital stock subject to mandatory redemption is generally equal to its par value as indicated by contemporaneous member purchases and sales at par value. Fair value also includes an estimated dividend earned at the time of reclassification from capital to a liability, until such amount is paid, and any subsequently declared dividend. Dividends related to capital stock classified as mandatorily redeemable capital stock are accrued at the expected dividend rate and reported as interest expense on the Combined Statement of Income.

Statutory and Regulatory Restrictions on Capital Stock Redemptions and Repurchases

In accordance with the FHLBank Act, each class of FHLBank stock is considered putable by the member, and an FHLBank may repurchase, at its sole discretion, any member's stock investments that exceed the required minimum amount. However, there are significant statutory and regulatory restrictions on the obligation to redeem, or right to repurchase, the outstanding stock. As a result, whether or not a member may have its capital stock in an FHLBank repurchased (at an FHLBank's discretion at any time before the end of the redemption period) or redeemed (at a member's request, completed at the end of a redemption period) will depend on whether the FHLBank is in compliance with the following restrictions.

- An FHLBank may not redeem or repurchase any capital stock if, following such redemption or repurchase, the FHLBank would fail to satisfy any of its minimum capital requirements. By law, no FHLBank stock may be redeemed or repurchased if the FHLBank becomes undercapitalized.

- An FHLBank may not redeem or repurchase any capital stock without approval of the FHFA if either its board of directors or the FHFA determines that it has incurred, or is likely to incur, losses resulting, or expected to result, in a charge against capital while such charges are continuing or expected to continue.

- An FHLBank's board of directors can suspend redemptions of stock if it finds that redemptions would result in the FHLBank failing to maintain adequate capital considering risks faced by the FHLBank or would otherwise prevent the FHLBank from operating in a safe and sound manner.

These restrictions apply even if an FHLBank is in compliance with its minimum capital requirements. As a result, repurchases or redemptions of a member's capital stock in an FHLBank will depend on whether the FHLBank is in compliance with its three regulatory capital requirements (risk-based capital, total regulatory capital, and leverage capital). In addition, an individual FHLBank may institute a higher capital requirement to meet internally-established thresholds or to address supervisory matters, limit dividend payments, or restrict excess capital stock repurchases as part of its retained earnings policies.

Additionally, an FHLBank may not redeem or repurchase shares of capital stock from any of its members if:

- the principal or interest due on any consolidated obligation has not been paid in full when due;

- the FHLBank fails to certify in writing to the FHFA that it will remain in compliance with its liquidity requirements and will remain capable of making full and timely payment of all of its current obligations;

- the FHLBank notifies the FHFA that it cannot provide the foregoing certification, projects it will fail to comply with statutory or regulatory liquidity requirements, or will be unable to timely and fully meet all of its obligations; or

- the FHLBank actually fails to comply with statutory or regulatory liquidity requirements, or to timely and fully meet all of its current obligations, or enters or negotiates to enter into an agreement with one or more FHLBanks to obtain financial assistance to meet its current obligations.

If an FHLBank is liquidated, after payment in full to the FHLBank's creditors, the FHLBank's stockholders will be entitled to receive the par value of their capital stock. The rights of the Class A and Class B stockholders in connection with a liquidation, merger, or other consolidation with another FHLBank shall be determined in accordance with the capital plan of the affected FHLBank, subject to any terms and conditions imposed by the FHFA.

In addition to possessing the authority to suspend stock redemptions, in certain situations, the FHLBank Act provides that an FHLBank's board of directors has the right to call for the FHLBank's members, as a condition of membership, to make additional capital stock purchases as needed to satisfy statutory and regulatory capital requirements under the Gramm-Leach-Bliley Act.

Each FHLBank's board of directors has a statutory obligation to review and adjust member capital stock requirements in order to comply with the FHLBank's minimum capital requirements, and each member must comply promptly with any such requirement. However, a member could reduce its outstanding business with the FHLBank as an alternative to purchasing stock.

If, during the period between receipt of a stock redemption notification from a member and the actual redemption (which may last indefinitely if an FHLBank is undercapitalized), an FHLBank is either liquidated or forced to merge with another FHLBank, the redemption value of the stock will be established after the settlement of all senior claims. Generally, no claims would be subordinated to the rights of FHLBank stockholders.

Dividends and Retained Earnings

According to FHFA regulations and the terms of the Joint Capital Enhancement Agreement, as amended (Capital Agreement), an FHLBank's board of directors may declare and pay dividends, in either cash or capital stock, from previously retained earnings or current net earnings that are classified as unrestricted retained earnings, or from additional capital from merger. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* to the accompanying combined financial statements for more information about the merger.) An FHLBank is prohibited from paying a dividend if it has failed to meet any capital requirements or would fail to meet such a requirement after paying the dividend. FHFA regulations also limit the ability of an FHLBank to create excess capital stock under certain circumstances. Excess capital stock is defined as the amount of stock held by a member (or former member) in excess of that institution's minimum investment requirement. An FHLBank may not pay dividends in the form of capital stock or issue new excess capital stock to members if that FHLBank's excess capital stock exceeds one percent of its total assets, or if the issuance of excess capital stock would cause that FHLBank's excess capital stock to exceed one percent of its total assets.

The Capital Agreement is intended to enhance the capital position of each FHLBank. The Capital Agreement provides that each FHLBank allocates 20% of its net income to a separate restricted retained earnings account. (See *Note 17 - Capital - Restricted Retained Earnings* to the accompanying combined financial statements.)

Use of Derivatives

The use of derivatives is an integral part of each FHLBank's financial management strategy to reduce identified risks inherent in its lending, investing, and funding activities. The FHLBanks are exposed to interest-rate risk primarily from the effect of interest rate changes on their interest-earning assets and their interest-bearing liabilities that finance these assets. To mitigate the risk of loss, each FHLBank has established policies and procedures, which include guidelines on the amount of exposure to interest rate changes it is willing to accept. In addition, each FHLBank monitors the risk to its interest income, net interest margin, and average maturity of interest-earning assets and interest-bearing liabilities. FHFA regulations and each FHLBank's risk management policy prohibit trading in, or the speculative use of, these derivative instruments and limit credit risk arising from these instruments. The types of derivatives an FHLBank may use include: interest-rate swaps, options, swaptions, interest-rate cap and floor agreements, and futures and forward contracts. Each FHLBank may enter into derivatives to:

- reduce funding costs for consolidated obligations;
- manage interest-rate risk exposure inherent in otherwise unhedged asset or liability positions;
- manage prepayment risk;
- achieve the FHLBank's risk management objectives; and
- act as an intermediary between FHLBank members and counterparties.

An FHLBank may use derivatives in its overall interest-rate risk management activities to manage the interest-rate sensitivity of its assets to correspond to the interest-rate sensitivity of its liabilities. In addition to using derivatives to manage mismatches between the coupon features of its assets and liabilities, an FHLBank also uses derivatives to manage embedded options in its assets and liabilities and to preserve the market value of its existing assets and liabilities.

Each FHLBank 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. An FHLBank may enter into derivative transactions concurrently with the issuance of consolidated obligations. This strategy, of issuing consolidated obligations while simultaneously entering into derivative transactions, enables an FHLBank to offer a wider range of attractively-priced advances to its members and may allow an FHLBank to reduce its funding costs. The continued attractiveness of this strategy depends on yield relationships between the FHLBanks' consolidated obligations and the derivatives markets. If conditions change, an FHLBank may alter the types or terms of the consolidated obligations that it issues. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements and *Financial Discussion and Analysis - Risk Management - Credit Risk - Derivative Counterparties* for information on credit exposure on derivatives.)

Audits and Examinations

FHLBanks' Regulator

The Federal Housing Finance Agency (FHFA), an independent agency in the executive branch of the U.S. government, supervises and regulates the FHLBanks and the Office of Finance. The Housing Act created the FHFA with regulatory authority over FHLBank matters such as: board of director composition, executive compensation, risk-based capital standards and prompt corrective action enforcement provisions, membership eligibility, and low-income housing goals. The FHFA's mission, with respect to the FHLBanks, is to ensure that the FHLBanks operate in a safe and sound manner so that the FHLBanks serve as a reliable source of liquidity and funding for housing finance and community investment. (See *Note 17 - Capital* to the accompanying combined financial statements for more information on the FHFA's regulatory requirements.)

The FHFA is headed by a Director appointed by the President of the United States, by and with the advice and consent of the U.S. Senate, to serve a five-year term. The Director of the FHFA must have a demonstrated understanding of financial management or oversight, and have a demonstrated understanding of capital markets, including the mortgage securities markets and housing finance.

The Federal Housing Finance Oversight Board advises the Director of the FHFA about overall strategies and policies for executing the duties of the Director of the FHFA. The Federal Housing Finance Oversight Board is comprised of four board members: the Secretary of the Treasury, the Secretary of HUD, the Chairman of the SEC, and the Director of the FHFA, who serves as the chairman of the board.

The FHFA is financed by assessments from the regulated entities, including the FHLBanks. No tax dollars or other appropriations are directed to support the operations of the FHFA or the FHLBanks. To assess the safety and soundness of the FHLBanks, the FHFA conducts annual on-site examinations, interim on-site visits, and off-site analyses of each FHLBank and the Office of Finance. In accordance with the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended by the Housing Act, the FHFA is required to present the findings of the agency's annual examinations of the FHLBanks and the Office of Finance to the U.S. Congress. In addition, each FHLBank is required to submit monthly financial information on its financial condition and results of operations to the FHFA.

The principal duties of the Director of the FHFA, with respect to the FHLBanks, are to:

- oversee the prudential operations of the FHLBanks;
- ensure that each FHLBank operates in a safe and sound manner, including maintenance of adequate capital and internal controls;
- ensure that the operations and activities of each FHLBank foster liquid, efficient, competitive, and resilient national housing finance markets (including activities relating to mortgages on housing for low- and moderate-income families involving a reasonable economic return that may be less than the return earned on other activities);

- ensure that each FHLBank complies with the FHLBank Act and the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended by the Housing Act, and the applicable rules, regulations, guidelines, and orders issued under those Acts;

- ensure that each FHLBank carries out its statutory mission only through activities that are authorized under and consistent with the FHLBank Act and the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended by the Housing Act; and

- ensure that the activities of each FHLBank and the manner in which each FHLBank is operated are consistent with the public interest.

The FHFA is located at 400 7th Street, SW, Washington, D.C. 20219, and its web site is www.fhfa.gov. This web site is provided as a matter of convenience only, and its contents are not made part of this report and are not intended to be incorporated by reference into this report.

Government Corporation Control Act

The Government Corporation Control Act provides that, before a government corporation issues and offers obligations to the public, the Secretary of the Treasury shall prescribe the form, denomination, maturity, interest rate, and conditions to which the obligations will be subject; the method and time issued; and the selling price. The FHLBanks meet the definition of government corporations under the Government Corporation Control Act.

Each FHLBank and the Office of Finance has an internal audit department and an audit committee of its board of directors. An independent registered public accounting firm audits the annual financial statements of each FHLBank and the annual combined financial statements of the FHLBanks prepared by the Office of Finance. The accounting firm conducts the audit of each FHLBank in accordance with the standards of the Public Company Accounting Oversight Board and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. The accounting firm conducts the audit of the annual combined financial statements in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. The FHLBanks and certain members of the U.S. Congress receive the audited financial statements of the FHLBanks. In addition, each FHLBank is required to submit an annual management report to the U.S. Congress. Each FHLBank shall provide a copy of that report to the President of the United States, the Director of the Office of Management and Budget, and the Comptroller General of the United States. These reports include financial statements, a statement on internal accounting and administrative control systems, the report of the accounting firm on the financial statements, and other comments and information necessary to inform the U.S. Congress about the operations and financial conditions of the FHLBanks.

The Government Corporation Control Act provides that the Comptroller General of the United States may review any audit of the financial statements conducted by an independent registered public accounting firm and shall report to the U.S. Congress, the Director of the Office of Management and Budget, and the FHLBank under review regarding the results of the review and make any recommendation the Comptroller General of the United States considers appropriate. The Comptroller General of the United States may also audit the financial statements of an FHLBank at the discretion of the Comptroller General or at the request of a committee of the U.S. Congress. In addition, the Comptroller General of the United States has the authority under the FHLBank Act to audit or examine the FHFA and the FHLBanks to determine the extent to which they fairly and effectively fulfill the purposes of the FHLBank Act.

Other Mission-Related Activities

In addition to supporting residential mortgage lending, one of the FHLBanks' core missions is to support community development through affordable housing and community investment. A number of programs administered by the FHLBanks are targeted to fulfill that mission. These programs have provided affordable homeownership and rental opportunities for hundreds of thousands of very low- to moderate-income families and have provided community lending, which has strengthened communities across the United States and its territories.

Community Investment Cash Advance Programs

The FHLBanks offer funding to members, often at below-market interest rates and for long terms, through Community Investment Cash Advance programs. Under these programs, in general, each FHLBank:

- shall offer an Affordable Housing Program;
- shall offer a Community Investment Program;
- may offer a Rural Development Funding Program; and
- may offer an Urban Development Funding Program.

Community Investment Cash Advance programs provide financing for projects that target affordable housing and certain economic development activities. Economic development projects include commercial, industrial, manufacturing, social service, infrastructure, and public facility projects and activities. Lending targets specific beneficiaries, which are determined by the geographical area in which a project is located, by the individuals who benefit from a project as employees or service recipients, or by projects that qualify as small businesses. Members may use the proceeds of Community Investment Cash Advance funding to finance targeted affordable housing and economic development projects through loan originations and participations, through lending to other lenders for eligible purposes, or by purchasing eligible mortgage-backed securities, mortgage revenue bonds, and low-income housing tax credits.

Affordable Housing Program (AHP). An AHP subsidizes the cost of owner-occupied housing provided that the household's income may not exceed 80% of the area median income, and in the case of rental housing, the household's income in at least 20% of the units may not exceed 50% of the area median income. The subsidy may be in the form of a grant or an advance with a reduced interest rate. AHP funds are primarily available through a competitive application program at each of the FHLBanks.

In an AHP competitive application program, members submit applications on behalf of one or more sponsors of eligible housing projects. Projects must meet certain eligibility requirements and score successfully in order to obtain funding under an AHP competitive application program. AHP funds are also awarded through a homeownership set-aside program. Under this type of program, an FHLBank may set aside annually up to the greater of $4.5 million or 35% of its annual required AHP funds to assist low- and moderate-income households to purchase homes, provided that at least one-third of the FHLBank's set-aside allocation is made available to assist first-time home buyers. Members obtain AHP homeownership set-aside funds from the FHLBank and then use those funds as grants to eligible households. Set-aside funds may be used for down payment, closing costs, counseling, or rehabilitation assistance in connection with a household's purchase or rehabilitation of an owner-occupied unit. Each FHLBank sets its own maximum grant amount, which may not exceed $15,000 per household. All of the FHLBanks have AHP homeownership set-aside programs.

If an FHLBank fails to use or commit the full amount it is required to contribute to an AHP in any year, then 90% of the unused or uncommitted amount shall be deposited by the FHLBank in an Affordable Housing Reserve Fund established and administered by the FHFA. The remaining 10% of the unused and uncommitted amount retained by that FHLBank should be fully used or committed by that FHLBank during the following year, and any remaining portion must be deposited in the Affordable Housing Reserve Fund. The Affordable Housing Reserve Fund has never been activated.

Community Investment Program. The Community Investment Program for housing is a lending program that allows members to borrow at a discounted rate of interest, or to obtain letters of credit, from an FHLBank. An advance under the Community Investment Program for housing is offered to a member at an FHLBank's cost of funds plus reasonable administrative costs. An FHLBank discounts the interest rates on these advances and may require the member to pass through this discount to its own borrowers.

Members use the Community Investment Program for housing advances to fund the purchase, construction, rehabilitation, refinancing, or pre-development financing of owner-occupied and rental housing for households whose income does not exceed 115% of the area median income. At December 31, 2015 and 2014, the FHLBanks had $10.3 billion and $8.7 billion of Community Investment Program housing advances outstanding.

In addition to housing, this program can be used for commercial and economic development activities that benefit low- or moderate-income households with incomes at 80% or less of area median income and in neighborhoods where at least 51% of households are low- or moderate-income. At December 31, 2015 and 2014, the FHLBanks had $159 million and $181 million of Community Investment Program commercial and economic development advances outstanding.

Rural Development Funding Program. The Rural Development Funding Program provides advances or grants for targeted community lending in rural areas for targeted beneficiaries with incomes at or below 115% of the area median income.

Urban Development Funding Program. The Urban Development Funding Program provides advances or grants for targeted community lending in urban areas for targeted beneficiaries with incomes at or below 100% of the area median income.

Community Investment Cash Advance Program Status and Funding. Currently, each FHLBank offers an AHP and a Community Investment Program and may offer either a Rural Development Funding Program, an Urban Development Funding Program, or both. Each FHLBank has a Community Lending Plan that describes its program objectives for economic development. Approved housing associates may use certain Community Investment Cash Advance programs. Some FHLBanks have additional community lending programs designed to retain or create jobs, or otherwise improve the economic status of communities.

For the year ended December 31, 2015, the FHLBanks have contributed $332 million to the AHP and have disbursed $296 million through the AHP. (See *Note 15 - Affordable Housing Program (AHP)* to the accompanying combined financial statements.)

For the year ended December 31, 2015, the FHLBanks have funded $2.9 billion in Community Investment Program advances, including housing advances and economic development advances. For the year ended December 31, 2015, the FHLBanks have also funded $4.3 billion in Community Investment Cash Advance economic development advances.

Community Support Program

To retain access to long-term credit from an FHLBank, each member that is subject to community support review is required to meet standards of community support activities, which it documents by submitting a Community Support Statement to the FHFA every two years. These standards take into account each member's performance under the Community Reinvestment Act of 1977, as amended, and the member's record of lending to first-time home buyers.

Competition

Advances

Demand for FHLBank advances is affected by, among other things, the cost of other sources of liquidity available to FHLBank members, including deposits. Each FHLBank individually competes with its members' depositors as well as suppliers of secured and unsecured wholesale funding. These competitors may include investment banks, commercial banks, Federal Reserve Banks, and, in certain circumstances, one or more other FHLBanks, when affiliates of their members are members of other FHLBanks. Both small and large FHLBank members typically have access to brokered deposits and repurchase agreements, each of which presents a competitive alternative to advances. Larger members also have greater access to other competitive sources of funding and asset and liability management facilitated by the domestic and global credit markets. These sources may include subordinated debt, interbank loans, interest-rate swaps, options, bank notes, and commercial paper. In addition, the FHLBanks' competitive environment may be impacted by various legislative and regulatory initiatives. (See *Risk Factors - Business Risk-Legislative and Regulatory* for more information.)

The availability of alternative funding sources to members can significantly influence the demand for FHLBank advances and this availability can vary as a result of:

- market conditions;
- products and structures available in the marketplace;
- member creditworthiness;
- availability of collateral; and
- new government programs and regulations or changes to existing ones.

Mortgage Loans

The activities of the FHLBanks' mortgage loan programs are subject to significant competition in purchasing conventional fixed-rate mortgage and government-guaranteed or -insured loans. The FHLBanks face competition in customer service, the prices paid for these assets, and ancillary services, such as automated underwriting. The most direct competition for mortgages comes from other housing GSEs that also purchase conventional fixed-rate mortgage loans, specifically Fannie Mae and Freddie Mac, which are the dominant purchasers of residential fixed-rate conventional mortgages. The FHLBanks primarily compete on the basis of transaction structure, price, products, and services offered. The FHLBanks regularly reassess their potential for success in attracting and retaining customers for their mortgage products and services.

Debt Issuance

Each FHLBank also competes primarily with the U.S. Treasury, Fannie Mae, Freddie Mac, and other GSEs, as well as corporate, state and local, sovereign, sub-sovereign, and supranational entities, for funds raised through the issuance of unsecured debt in the domestic and global debt markets. If the supply of competing debt products increases without a corresponding increase in demand, or if certain investors change their view of investing in FHLBank debt, debt costs may rise, or less debt may be issued at the same cost. In addition, certain regulatory initiatives may adversely affect the availability and cost of funds raised through the issuance of certain types of unsecured debt. Although the available supply of funds has kept pace with the funding needs of the FHLBanks' members (as expressed through FHLBank debt issuance), investors should not rely on the belief that this will necessarily continue to be the case in the future.

The issuance of callable debt and the simultaneous execution of callable derivative transactions that mirror the debt issued has been an important source of competitive funding for the FHLBanks. As such, the availability of markets for callable debt and derivative transactions may be an important factor in determining the FHLBanks' relative cost of funds. There is considerable competition in the markets for callable debt and for derivative transactions with high credit quality entities. Investors should not rely on the belief that these markets will necessarily be sustained in the future. (See *Financial Discussion and Analysis - Legislative and Regulatory Developments* for more information about recent regulatory developments.)

Tax Status and Assessments

The FHLBanks are exempt from all corporate federal, state, and local taxation, except for local real estate tax. However, by regulation, the FHLBanks must annually set aside for the Affordable Housing Program the greater of the aggregate of $100 million or 10% of each individual FHLBank's income subject to assessment. In addition to the required Affordable Housing Program assessment, an FHLBank’s board of directors may elect to make voluntary contributions to the Affordable Housing Program. Affordable Housing Program assessments were $332 million, $269 million, and $293 million for the years ended December 31, 2015, 2014, and 2013. (See *Note 15 - Affordable Housing Program (AHP)* to the accompanying combined financial statements.)

Cash dividends received by FHLBank members from the FHLBanks are taxable and do not benefit from the exclusion for corporate dividends received.

Office of Finance

The consolidated obligations of the FHLBanks are issued through the Office of Finance. In addition to facilitating and executing the issuance of the consolidated obligations, the Office of Finance also:

- services all consolidated obligations;
- prepares the FHLBanks' quarterly and annual combined financial reports;
- serves as a source of information for the FHLBanks on capital markets developments;
- administers the Resolution Funding Corporation (REFCORP) and the Financing Corporation, two tax-exempt government corporations created during the savings and loan crisis of the 1980s;
- manages relationships with the rating agencies and the U.S. Treasury as they relate to the consolidated obligations; and
- performs various debt marketing activities, including investor presentations and conferences.

Pursuant to FHFA regulations, the Office of Finance, often in conjunction with the FHLBanks, has adopted policies and procedures for consolidated obligations. These policies and procedures relate to the frequency and timing of consolidated obligations issuance, issue size, minimum denomination, selling concessions, underwriter qualifications and selection, issuance currency, coupon features, call or put features, principal amortization features, and selection and retention of outside counsel. The Office of Finance has responsibility for facilitating and approving the issuance of the consolidated obligations in accordance with these policies and procedures. In addition, the Office of Finance has the authority to redirect, limit, or prohibit the FHLBanks' requests to issue consolidated obligations if it determines that the action is inconsistent with FHFA regulations. The FHFA requires consolidated obligations to be issued efficiently and at the lowest all-in funding costs over time, consistent with:

- prudent risk-management practices, prudential debt parameters, short- and long-term market conditions, and the FHLBanks' role as GSEs;
- maintaining reliable access to the short-term and long-term capital markets; and
- positioning the issuance of debt to take advantage of current and future capital market opportunities.

Employees

Table 3 - Employees

	December 31, 2015			December 31, 2014			Full-time Employees
FHLBank	Full-time	Part-time	Total	Full-time	Part-time	Total	Change
Boston	204	1	205	196	1	197	8
New York	273	—	273	258	—	258	15
Pittsburgh	213	2	215	217	2	219	(4)
Atlanta	314	4	318	333	6	339	(19)
Cincinnati	203	—	203	203	1	204	—
Indianapolis	214	2	216	213	4	217	1
Chicago	410	12	422	390	15	405	20
Des Moines	269	6	275	215	7	222	54
Dallas	207	—	207	192	—	192	15
Topeka	213	5	218	213	3	216	—
San Francisco	256	7	263	248	7	255	8
Seattle(1)	—	—	—	150	—	150	(150)
Office of Finance	106	—	106	102	—	102	4
Total	2,882	39	2,921	2,930	46	2,976	(48)

(1) Effective May 31, 2015, the FHLBank of Seattle merged with and into the FHLBank of Des Moines, with the FHLBank of Des Moines surviving the merger as the continuing FHLBank. (*See Note 3 - FHLBanks of Des Moines and Seattle Merger.* to the accompanying combined financial statements.)

RISK FACTORS

The following discussion summarizes certain risks and uncertainties facing the FHLBanks as they potentially affect investors in the FHLBanks' consolidated obligations. There may be other risks and uncertainties that are not described in these risk factors. If any of these risks or uncertainties is realized, it could negatively affect an FHLBank's, and possibly the entire FHLBank System's, financial condition or results of operations. As a result, there could be a reduction in the value of FHLBank membership or an adverse effect on an FHLBank's, or the entire FHLBank System's, ability to pay its obligations when due. Additional discussion and analysis of other risks and uncertainties are set forth throughout this Combined Financial Report. (See each FHLBank's 2015 SEC Form 10-K under *Part I. Item 1A-Risk Factors* for a discussion regarding its risk factors.)

Business Risk-General

A prolonged downturn in the U.S. housing market and other economic conditions, and related U.S. government policies, could adversely affect the FHLBanks' business activities and earnings.

The FHLBanks' businesses and results of operations are sensitive to the condition of the housing and mortgage markets, as well as general business and economic conditions. While U.S. economic activity appears to be expanding at a moderate pace, there continue to be challenges to the ongoing economic recovery due to still-stressed fiscal situations at the federal, state, and local levels. In 2015, the conditions in the U.S. housing market continued to improve, as evidenced by the level of home price appreciation and lower delinquency rates. However, if adverse trends reappear in the mortgage lending sector, including declines in home prices or loan performance trends, a reduction could occur in the value of collateral securing member credit to each FHLBank and the fair value of its mortgage-backed security investments. This change could increase the possibility of under-collateralization, increasing the risk of loss in case of a member's failure, or could increase the risk of loss on the FHLBanks' mortgage-backed security investments because of additional credit impairment charges. Also, deterioration in the residential mortgage markets could negatively affect the value of the FHLBanks' mortgage loan portfolios, resulting in an increase in the allowance for credit losses on mortgage loans and possible additional realized losses if the FHLBanks are forced to liquidate their mortgage portfolios.

In addition, the FHLBanks' businesses and results of operations are affected significantly by the fiscal and monetary policies of the U.S. government and its agencies. For example, the Federal Reserve Board's policies either directly or indirectly influence the yield on interest-earning assets and the yield on interest-bearing liabilities and the demand for FHLBank debt. These policies and other systemic events could adversely affect the FHLBanks through lower yields on their investments, higher yields on their debt, or both. Additionally, the FHLBanks are affected by the global economy to the extent it influences, among other business activities, member borrowing activity and FHLBank investment patterns. Furthermore, changes in investors' perceptions in the strength of the U.S. economy could lead to changes in investors' demand for FHLBanks' consolidated obligations.

Business Risk-Legislative and Regulatory

Changes in the legislative and regulatory environment could restrict the FHLBanks' business operations and negatively affect their earnings and the value of FHLBank membership.

As GSEs, the FHLBanks are organized under the authority of the FHLBank Act and are governed by U.S. federal laws and regulations of the FHFA, an independent agency within the executive branch of the U.S. government. The FHFA has issued and continues to issue regulations that change how the FHLBanks conduct business activities as part of carrying out their housing finance and community investment mission.

On January 20, 2016, the FHFA issued a final rule on FHLBank membership, effective on February 19, 2016. This rule, among other things, makes captive insurance companies ineligible for FHLBank membership. Captive insurance company members that were admitted as FHLBank members prior to September 12, 2014, will have their memberships terminated no later than February 19, 2021. Captive insurance company members that were admitted as FHLBank members on or after September 12, 2014, will have their memberships terminated no later than February 19, 2017. In addition, there are restrictions on the level and maturity of advances that the affected FHLBanks can make to these members during the sunset periods, which will also affect the capital stock balances of the affected FHLBanks. At December 31, 2015, the FHLBanks had 55 captive insurance company members with outstanding advances at par value of $38.7 billion, which represented 6.1% of combined total advances at par value. The FHLBanks are continuing to evaluate the full effect of this rule and the magnitude of the impact will depend, in part, on certain FHLBanks' financial condition and results of operations at the time of membership termination or maturity of related advances.

The legislative and regulatory environment for FHLBanks and their members also continues to change as regulators continue to implement the Housing and Economic Recovery Act of 2008, as amended, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act), and the reforms of the Basel Committee on Bank Supervision. There are several provisions in the Dodd-Frank Act that could affect the FHLBanks or their members, depending on how the various regulators decide to implement this federal law through the issuance of regulations and their enforcement activities. Because the Dodd-Frank Act requires several regulatory bodies to carry out its provisions, the full effect of this law on the FHLBanks and their members remains uncertain until after the required regulations and reports to Congress are issued and implemented.

In addition, changes in the regulatory environment relating to FHLBank members, investors, and debt underwriters have affected, and will continue to affect, the FHLBanks. For example, the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, and the FDIC previously adopted revised capital and liquidity requirements to incorporate the Basel III standards from the Basel Committee on Banking Supervision. While the FHLBanks are not required to meet these new requirements, they are applicable to certain FHLBank members, investors, and debt underwriters, among other banking organizations. There continues to be uncertainty about the extent to which implementation of these requirements by FHLBank members, investors, and debt underwriters may affect the FHLBanks. Future changes to the regulatory environment that affect FHLBank members, investors, and debt underwriters could affect certain FHLBanks' business activities, financial condition, and results of operations, including the FHLBanks' ability to access the capital markets. (See *Financial Discussion and Analysis - Legislative and Regulatory Developments* for more information about recent legislative and regulatory developments.)

Changes in the regulation or status of GSEs and the related effect on debt issuance could reduce demand or increase the cost of the FHLBanks' debt issuance and adversely affect their earnings.

The FHLBanks are GSEs organized under the authority of the FHLBank Act and are authorized to issue debt securities to fund their operations and to finance housing and community investments in the United States. During the financial crisis of 2008, the FHLBank System's debt pricing came under pressure as investors perceived GSE debt securities, including those securities issued by Fannie Mae and Freddie Mac, as bearing increased risk. This increased perception of risk resulted from the negative financial performance of Fannie Mae and Freddie Mac and the FHFA's action to place them into conservatorship in September 2008. The U.S. Congress continues to consider possible reforms for U.S. housing finance and related regulated entities, including the resolution of Fannie Mae and Freddie Mac.

Given the current uncertainty surrounding the timing and pace of these reforms, the FHLBanks' funding costs and access to funds could be adversely affected by changes in investors' perceptions of the risks associated with the housing GSEs. Additionally, investor concerns about U.S. agency debt and the U.S. agency debt market may also adversely affect the FHLBanks' competitive position and result in higher funding costs, which could negatively affect the FHLBanks' earnings.

A failure to meet minimum regulatory capital requirements could affect the FHLBanks' ability to conduct business and could adversely affect their earnings.

Each FHLBank is subject to certain minimum capital requirements under the FHLBank Act, as amended, and FHFA rules and regulations that include total capital, leverage capital, and risk-based capital requirements. If an FHLBank is unable to satisfy its minimum capital requirements, that FHLBank would be subject to certain capital restoration requirements and prohibited from paying dividends and redeeming or repurchasing capital stock without the prior approval of the FHFA, which could adversely affect a member's investment in FHLBank capital stock. Furthermore, any suspension of dividends and/or capital stock repurchases and redemptions could decrease FHLBank member confidence, which in turn could reduce advance demand and net income should members elect to use alternative sources of wholesale funding. As a result of a risk-based capital shortfall, investors could perceive an increased level of risk or deterioration in the performance of an FHLBank, which could result in a downgrade in that FHLBank's outlook or its short- or long-term credit ratings. (See *Note 17 - Capital* to the accompanying combined financial statements and *Business - Capital, Capital Rules, and Dividends* for additional information on the FHLBanks' capital requirements.)

A failure to pay dividends or repurchase or redeem FHLBank members' capital stock consistent with past practices may cause a decrease in members' demand for advances or difficulties in retaining existing members and attracting new members.

The payment of dividends and repurchase or redemption of capital stock are subject to certain statutory and regulatory restrictions (including that an FHLBank is in compliance with all minimum capital requirements) and is highly dependent on an FHLBank's ability to continue to generate future net income and maintain adequate retained earnings and capital levels. Furthermore, events such as changes in an FHLBank's market risk profile, credit quality of assets held, and increased volatility of net income may affect the adequacy of an FHLBank's retained earnings. These changes may require an FHLBank to increase its target level of retained earnings and correspondingly reduce its dividends or limit capital stock repurchases or redemptions in order to achieve and maintain the targeted amounts of retained earnings. These actions may be a factor in causing a decline in the value of FHLBank membership or a reduction in members' demand for advances, or a factor in making it difficult for an FHLBank to retain existing members or to attract new members. (See *Note 17 - Capital* to the accompanying combined financial statements for additional information on the FHLBanks' excess stock limitations.)

Compliance with regulatory contingency liquidity guidance could restrict investment activities and adversely affect the FHLBanks' net interest income.

The FHFA requires the FHLBanks to maintain sufficient liquidity through short-term investments in an amount at least equal to an FHLBank's cash outflows under two hypothetical scenarios for the treatment of maturing advances. (See *Financial Discussion and Analysis - Liquidity and Capital Resources* for a description of these scenarios.) This regulatory guidance is designed to provide sufficient liquidity to protect against temporary disruptions in the capital markets that affect the FHLBanks' access to funding. To satisfy these two scenarios, the FHLBanks maintain balances in shorter-term investments, which may earn lower interest rates than alternate investment options. Additionally, in certain circumstances the FHLBanks may need to fund shorter-term advances with short-term discount notes that have maturities beyond those of the related advances, thus increasing the FHLBanks' short-term advance pricing or reducing net income through lower net interest spreads. To the extent these increased prices make FHLBank advances less competitive, advance levels and net interest income may be negatively affected. (See *Financial Discussion and Analysis - Liquidity and Capital Resources* for more discussion regarding the FHLBanks' liquidity requirements.)

The FHLBanks' Affordable Housing Programs could become a larger proportional burden if the FHLBanks' annual net income is reduced or eliminated.

Each FHLBank is required to establish an Affordable Housing Program (AHP). Each FHLBank provides subsidies in the form of direct grants or below-market interest rate loans to members who use the funds to assist in the purchase, construction, or rehabilitation of housing for low- to moderate-income households. Annually, the FHLBanks must set aside an aggregate of the greater of $100 million or 10% of net earnings for the AHP. As an FHLBank's net income is reduced, the amount of funding available through the AHP is also reduced, limiting the FHLBanks' ability to satisfy its mission. As a result, the FHLBanks could be required to set aside a minimum of $100 million per year in the aggregate, even if one or more FHLBanks are unprofitable for that year. (See *Note 15 - Affordable Housing Program (AHP)* to the accompanying combined financial statements for more information about this funding requirement.)

Business Risk-Strategic

Increased competition or reduced demand could adversely affect the FHLBanks' primary business activity to provide funding at attractive prices while maintaining sufficient net interest margins.

The FHLBanks' primary business is making advances to their members. Each FHLBank competes with other suppliers of wholesale funding, including investment banks, commercial banks, Federal Reserve Banks, and, in certain circumstances, other FHLBanks. While the FHLBanks' advances to their members have moderately increased in recent years, the FHLBanks experienced a sharp decrease in demand from their members for advances following the financial crisis of 2008. This was largely due to members' ability to access alternative funding sources, such as an increase in deposits from members' banking customers.

The FHLBanks may be required to change policies, programs, and agreements affecting members' access to advances, mortgage purchase programs, affordable housing programs, and other credit programs that could cause members to obtain financing from alternative sources. Furthermore, adoption of new legislation or regulations could create alternative funding sources for FHLBank members. Some competitors may not be subject to the same regulations, which may enable those competitors to offer products and terms that the FHLBanks are not able to offer. Additionally, some of the FHLBanks compete with Fannie Mae and Freddie Mac, as well as other FHLBanks, to purchase mortgage loans from members or affiliates of members. This increased competition may reduce the amount of available mortgage loans that FHLBanks can purchase, resulting in lower income from this part of their businesses.

Additionally, each FHLBank also competes with the U.S. Treasury, Fannie Mae, Freddie Mac, and other GSEs, as well as corporate, state, and local, sovereign, sub-sovereign, and supranational entities, for funds through the issuance of unsecured debt in the global capital markets. Increases in the supply of competing debt products could result in higher debt costs or lower amounts of debt issued at the same cost. Increased competition could adversely affect the amount of funding available to the FHLBanks or increase the cost of funding available to the FHLBanks. Any of these effects could adversely affect the FHLBanks' combined financial condition and results of operations, and the value of FHLBank membership.

A loss or change of business activities with large members, consolidation of membership, and/or regulatory changes in membership rules could adversely affect the FHLBanks' combined financial condition or results of operations.

Some FHLBanks have a high concentration of advances and capital with large members, and certain large members have affiliates that are members of other FHLBanks. A loss of some of these members due to withdrawal from membership, acquisition by a non-member, or failure could result in a reduction of the FHLBanks' total combined assets, capital, and net income. Withdrawal of members could occur as a result of increased consolidation in the financial services industry. Industry consolidation could also lead to the concentration of large members in some FHLBank districts and a related decrease in membership and significant loss of business for certain other FHLBanks. If advances are concentrated in a smaller number of members, an FHLBank's risk of loss resulting from a single event would become proportionately greater. Industry consolidation could also cause an FHLBank to lose members whose business and stock investments are so substantial that their loss could threaten the viability of that FHLBank. In addition, regulatory changes in membership rules, such as the FHFA's final rule on FHLBank membership, would affect certain FHLBanks' business activities. (See *Business Risk-Legislative and Regulatory,* within this section, for more discussion regarding this rule.) As a result, the FHLBanks' combined financial condition or results of operations could be adversely affected by a continued loss or change in business activities with large members, consolidation in the financial services industry, and/or regulatory changes in membership rules. (See *Financial Discussion and Analysis - Risk Management - Business Risk* for more discussion regarding the FHLBanks' exposure to member concentration risk.)

Credit Risk

Increased loan delinquency and default rates or loan modifications could result in additional credit losses on mortgage loans that back mortgage-backed security investments and adversely affect the yield or value of these FHLBank investments.

FHLBanks have invested in both U.S. agency and private-label mortgage-backed securities that are backed by prime, subprime, and Alt-A mortgage loans. Although the FHLBanks only invested in senior tranches of these private-label mortgage-backed securities having the highest long-term debt rating at the time of purchase, many of those securities were subsequently downgraded and sustained realized or projected credit losses due to economic conditions and housing market trends. The depth and duration of these previous trends, and the uncertainty regarding future trends, continue to affect the market for these private-label mortgage-backed securities even though improvement in the combined fair value of these securities has been experienced in recent years.

In general, during 2015 the housing market continued to stabilize as prices have moderated and inventory levels have improved, but it continues to face ongoing challenges such as tight credit standards, which deter potential home buyers from taking advantage of low mortgage interest rates. Due to improvements in the housing markets, the FHLBanks continued to recognize minimal credit losses in their combined results of operations during 2015. If positive trends in the housing markets and housing prices reverse or are less than projected, there could be additional credit losses relating to other-than-temporary impairments. For example, a slower economic recovery, in either the United States as a whole or in specific regions of the country, or delays in foreclosures could result in higher delinquencies, increasing the risk of credit losses that adversely affect the yield or value of these securities.

Federal and state government authorities, as well as private entities that include financial institutions and residential mortgage loan servicers, have proposed, commenced, or promoted programs designed to provide homeowners with assistance in avoiding residential mortgage loan foreclosures. For example, the U.S. Treasury is continuing its efforts relating to refinancing and modification programs for homeowners whose mortgages are greater than their home value to include mortgages underlying private-label mortgage-backed securities. However, future increases in loan delinquency and default rates or loan modifications may adversely affect the yield or value of FHLBanks' private-label mortgage-backed securities and U.S. agency mortgage-backed securities. (See *Financial Discussion and Analysis - Risk Management - Credit Risk - Investments* for more discussion and analysis about the FHLBanks' credit risk exposure to investments and their management of this risk.)

Increased credit risk exposure resulting from increased defaults on mortgage loans or FHLBank member failures could adversely affect the FHLBanks' financial condition and earnings.

The FHLBanks have exposure to credit risk as part of their normal business operations through:

- funding advances;
- purchasing mortgage loans; and
- extending open lines of credit, standby letters of credit and other commitments.

The FHLBanks require advances and other extensions of credit to be fully secured with collateral and require borrowers to pledge additional collateral, when deemed necessary. Typically, an FHLBank would take physical possession or control of collateral if the financial condition of the borrower deteriorates or if the borrower exceeds certain product usage triggers. To ensure its position as a first-priority secured creditor, an FHLBank will generally require insurance company borrowers to place physical possession of all pledged eligible collateral with the FHLBank or deposit it with a control agent. If borrowers are unable to pledge additional collateral to fully secure their obligations with an FHLBank, that FHLBank's advance levels could decrease or result in an increase in credit risk, negatively affecting its financial condition, results of operations, and value of FHLBank membership. Additionally, inability to liquidate the collateral in the event of a default could cause an FHLBank to incur a credit loss and adversely affect the financial condition and results of operations of that FHLBank. (See *Financial Discussion and Analysis - Risk Management - Credit Risk - Advances* for more discussion and analysis about the FHLBanks' credit risk exposure to advances and their management of this risk.)

Mortgage loans held in the FHLBanks' portfolios are collateralized by the underlying real estate and may also be credit enhanced to further mitigate credit risk. Certain FHLBanks may have a greater credit risk exposure in geographical areas with suppressed real estate values.

The U.S. housing market remains exposed to credit risk as the U.S. financial markets continue to stabilize. As a result, some financial institutions continue to be under financial stress exposing the FHLBanks to member and counterparty risk, as well as the risk of default. Even though the financial services industry experienced a significantly lower rate of FHLBank member failures in recent years, the higher level of mergers and consolidations compared to years immediately prior to the financial crisis of 2008 could adversely affect the FHLBanks' membership or business volume.

If an FHLBank's member defaults on its obligations, or the FDIC fails either to promptly repay all of that failed institution's obligations or to assume the outstanding advances, then that FHLBank may be required to liquidate the collateral pledged by the failed institution. The volatility of market prices and interest rates could affect the value of the collateral held by the FHLBank as security for the obligations of its members. The proceeds realized from the liquidation of pledged collateral may not be sufficient to fully satisfy the amount of the failed institution's obligations or the operational cost of liquidating the collateral. Default by a member with significant unsecured obligations to an FHLBank could result in significant losses, which would adversely affect the FHLBanks' combined financial condition or results of operations. (See *Financial Discussion and Analysis - Risk Management - Credit Risk* for more discussion and analysis about the FHLBanks' exposure to credit risk and their management of this risk.)

Defaults by one or more institutional counterparties on its obligations to the FHLBanks could adversely affect combined financial condition and results of operations.

The FHLBanks face the risk that their institutional counterparties may fail to fulfill their contractual obligations. The primary exposures to institutional counterparty risk are with:

- unsecured money market transactions or short-term investments with domestic and foreign counterparties;
- derivative counterparties;
- mortgage servicers that service the loans purchased under the MPP and MPF Program; and
- third-party providers of credit enhancements on private-label MBS investments, including mortgage insurers, bond insurers, and financial guarantors.

A counterparty default could result in losses if an FHLBank's credit exposure to that counterparty was unsecured or under-collateralized, or if an FHLBank's credit obligations associated with derivative positions were over-collateralized. The insolvency or other inability of a significant counterparty to perform its obligations under these transactions or other agreements could have an adverse effect on the FHLBanks' financial condition and results of operations.

The FHLBanks have both direct and indirect exposure to foreign credit risk through their various counterparties. Adverse economic, political, or other trends that may occur within, across, or among various regions or countries could have direct adverse effects on an FHLBank's institutional counterparties and on the U.S. economy. In turn, the FHLBanks could also experience adverse effects on their credit performance given their relationship with these counterparties and the possibility of negative consequences for the U.S. economy.

In addition, the FHLBanks' ability to engage in routine derivatives, funding, and other transactions could be adversely affected by the actions and commercial soundness of other financial institutions. Financial services institutions are inter-related as a result of trading, clearing, counterparty, and other relationships. As a result, actual and potential defaults of one or more financial services institutions could lead to market-wide disruptions, making it difficult for the FHLBanks to find counterparties for transactions. (See *Financial Discussion and Analysis - Risk Management - Credit Risk* for more discussion and analysis about the FHLBanks' exposure to credit risk and their management of this risk.)

Market Risk

A sustained period of low interest rates, rapid changes in interest rates, or an inability to successfully manage interest-rate risk could have a material adverse effect on the FHLBanks' net interest income.

The FHLBanks realize net interest income primarily from the spread between interest earned on their outstanding advances and investments less the interest paid on their consolidated obligations and other liabilities. The FHLBanks' businesses and results of operations are significantly affected by the fiscal and monetary policies of the U.S. government and its agencies. Therefore, an FHLBank's ability to prepare for changes regarding the direction and speed of interest rate changes, or to use derivatives to hedge related exposures such as basis risk arising from a shift in the relationship of interest rates in different financial markets or on different financial instruments, significantly affects the success of its asset and liability management activities and its level of net interest income. If the FHLBanks are unable to enter into derivative instruments on acceptable terms, the FHLBanks may be unable to effectively manage their interest rate and other risks, which could adversely affect the FHLBanks' combined financial condition or results of operations.

An FHLBank may use a number of measures to monitor and manage interest rate risk, including income simulations and duration/market value sensitivity analyses. Given the unpredictability of the financial markets, capturing all potential outcomes in these analyses is extremely difficult. Key assumptions include, but are not limited to, loan volumes and pricing, market conditions for an FHLBank's consolidated obligations, interest rate spreads and prepayment speeds, implied volatility of options contracts, and cash flows on mortgage-related assets. These assumptions are inherently uncertain and they cannot precisely estimate net interest income and the market value of equity. Actual results may differ from simulated results due to the timing, magnitude, and frequency of interest rate changes and changes in market conditions and management strategies, among other factors. Volatility and disruption in the credit markets may result in a higher level of volatility in an FHLBank's interest-rate risk profile and could negatively affect that FHLBank's ability to manage interest-rate risk effectively.

Interest rate changes can exacerbate prepayment and extension risks. Decreases in interest rates typically cause mortgage prepayments to increase and may result in lower interest income and substandard performance in an FHLBank's mortgage portfolio as there are generally limited reinvestment opportunities at similar interest rates. In addition, while these prepayments would reduce the asset balance, the associated debt may remain outstanding and at above-market rates. Conversely, when interest rates increase, an FHLBank may experience extension risk, which is the risk that the mortgage-related investments will remain outstanding longer than expected at below-market yields. Any rapid changes in interest rates could adversely affect the FHLBanks' net interest income. (See *Quantitative and Qualitative Disclosures about Market Risk* for additional discussion and analysis regarding the FHLBanks' sensitivity to interest rate changes and the use of derivatives to manage their exposure to interest-rate risk.)

Changes to the credit ratings of FHLBanks' consolidated obligations could adversely affect the FHLBanks' ability to access the capital markets, their primary source of funding, on acceptable terms.

The FHLBanks' consolidated obligations are rated Aaa/P-1 with a stable outlook by Moody's and AA+/A-1+ with a stable outlook by S&P. Rating agencies may from time to time change a rating or issue negative reports. Because all of the FHLBanks have joint and several liability for all FHLBank consolidated obligations, negative developments at any FHLBank may affect these credit ratings or result in the issuance of a negative report regardless of an individual FHLBank's financial condition and results of operations. In addition, because of the FHLBanks' GSE status, the credit ratings of the FHLBank System and the FHLBanks are generally influenced by the sovereign credit rating of the United States.

If the U.S. government fails to adequately address, based on the credit rating agencies' criteria, its fiscal budget process or statutory debt limits, downgrades to the U.S. sovereign credit rating and outlook may occur. As a result, similar downgrades in the credit ratings and outlook on the FHLBanks and the FHLBanks' consolidated obligations may also occur even though they are not obligations of the United States.

Although credit rating actions in recent years have not had a material effect on the FHLBanks' funding costs, any future downgrades in credit ratings and outlook may result in higher funding costs or disruptions in the FHLBanks' access to capital markets, including additional collateral posting requirements under certain derivative instrument arrangements. (See *Note 12 - Derivatives and Hedging Activities* - *Managing Credit Risk on Derivatives* to the accompanying combined financial statements for more information about the FHLBanks' additional collateral requirements.) Furthermore, member demand for certain FHLBank products could weaken. To the extent that the FHLBanks cannot access funding when needed on acceptable terms to effectively manage their cost of funds, their financial condition and results of operations and the value of FHLBank membership could be negatively affected.

Liquidity Risk

Disruptions in the short-term capital markets could have an adverse effect on the FHLBanks' ability to refinance their consolidated obligations or to manage their liquidity positions to meet members' needs on acceptable terms.

The FHLBanks' primary source of funds is the sale of consolidated obligations in the capital markets. The FHLBanks' ability to obtain funds through the sale of consolidated obligations depends in part on prevailing conditions in the capital markets, the short-term capital markets in particular due to an increased reliance on discount note funding. The severe financial and economic disruptions during the financial crisis of 2008, and the U.S. government's dramatic measures enacted to mitigate their effects, have affected the FHLBanks' funding costs and practices. Changes to the regulatory environment that affect FHLBank debt underwriters, particularly recent changes related to capital and liquidity requirements, have also affected, and will continue to affect, the FHLBanks' ability to access the capital markets. Each FHLBank's ability to operate its business, meet its obligations, and generate net interest income depends primarily on the ability to issue debt continuously to meet member demand and to refinance existing outstanding consolidated obligations at attractive rates, maturities, and call features when needed.

The FHLBanks are exposed to liquidity risk if there is any significant disruption in the short-term debt markets. If this disruption is prolonged, the FHLBanks may not be able to obtain funding on acceptable terms. Without access to the short-term debt markets, the alternative longer-term funding, if available, would increase funding costs and likely cause the FHLBanks to increase advance rates, adversely affecting demand for advances. If the FHLBanks cannot access funding when needed on acceptable terms, their ability to support and continue their operations would be adversely affected. As a result, an FHLBank's inability to manage its liquidity position or its contingency liquidity plan to meet its obligations, as well as the credit and liquidity needs of its members, could adversely affect that FHLBank's financial condition and results of operations, and the value of FHLBank membership. (See *Financial Discussion and Analysis - Liquidity and Capital Resources* for more discussion regarding the FHLBanks' liquidity requirements.)

Operational Risk

A failure of FHLBanks' business and financial models to produce reliable results could adversely affect FHLBanks' business, financial condition, results of operations, and risk management.

Each FHLBank makes significant use of business and financial models for managing different risks. Each FHLBank uses models to measure and monitor exposures to various risks, including interest rate, prepayment, and other market risks, as well as credit risk. Each FHLBank also uses models in determining the fair value of financial instruments when independent price quotations are not available or reliable. The information provided by these models is also used in making business decisions relating to strategies, initiatives, risk management, transactions, and products, and for financial reporting. Because models use assumptions to project future trends and performance, they are inherently imperfect predictors of actual results.

Changes in models or in their underlying assumptions, judgments, or estimates may cause the results generated by the models to be materially different. If the models are not reliable, an FHLBank could make poor business decisions, including poor asset and liability management decisions, that could result in an adverse financial effect on that FHLBank's business. Furthermore, strategies that an FHLBank employs to attempt to manage the risks associated with the use of models may not be effective. The models used by each FHLBank to determine the fair values of its assets and liabilities, including derivatives, may differ from the models used by the other FHLBanks. The use of different models or assumptions by individual FHLBanks, as well as changes in market conditions, could result in materially different valuation estimates or other estimates even when similar or identical assets and liabilities are being measured, and could have materially different effects on the net income and retained earnings of each of the FHLBanks.

For example, uncertainty in the housing and mortgage markets may increase the FHLBanks' exposure to the inherent risks associated with the reliance on internal models that use key assumptions to project future trends and performance. Although each FHLBank adjusts its internal models when necessary to reflect changes in economic conditions, housing markets, and other key factors, the risk remains that an FHLBank's internal models could produce unreliable results or estimates that vary considerably from actual results. (See *Financial Discussion and Analysis - Critical Accounting Estimates* for more discussion about the FHLBanks' use of financial models in determining critical accounting estimates.)

A failure or breach, including as a result of cyber attacks, of the information systems of the FHLBanks and the Office of Finance, and those of critical vendors and third parties, could disrupt the FHLBanks' businesses or result in significant losses or reputational damage.

Each of the FHLBanks and the Office of Finance relies heavily on its information systems and other technology to conduct and manage its business. A failure or breach of these systems or other technologies, including events caused by cyber attacks, could disrupt and prevent the FHLBanks and the Office of Finance from conducting and managing their businesses effectively, including the FHLBanks' access to funds through the Office of Finance. Additionally, such failure or breach could result in significant losses, including a loss of intellectual property or of confidential information, reputational damages, or other harm.

Additionally, each of the FHLBanks and the Office of Finance relies on vendors and other third parties to perform certain critical services that may be sources of cyber security or other technological risks. Compromised security at those vendors and third parties could expose the FHLBanks and/or Office of Finance to cyber attacks or other breaches.

Although each of the FHLBanks and the Office of Finance takes measures to protect the security of its information systems, these actions may not be able to prevent or mitigate the negative effects of certain failures or breaches. As such, a failure or breach of information systems could disrupt and adversely affect an FHLBank's or the Office of Finance's ability to conduct and manage its business effectively and could also result in significant losses, reputational damage, or other harm.

Failures of critical vendors and other third parties could disrupt the FHLBanks' and Office of Finance's ability to conduct and manage their businesses.

Each of the FHLBanks and the Office of Finance relies on vendors and other third parties to perform certain critical services. A failure in, or an interruption to, one of more of those services provided could negatively affect the business operations of the FHLBanks and the Office of Finance. If one or more of these key external parties were not able to perform their functions for a period of time, at an acceptable service level, or for increased volumes, the FHLBanks' and the Office of Finance's business operations could be constrained, disrupted, or otherwise negatively affected. Additionally, the use of vendors and other third parties also exposes the FHLBanks and the Office of Finance to the risk of a loss of intellectual property or of confidential information or other harm. To the extent that vendors do not conduct their activities under appropriate standards, the FHLBanks and the Office of Finance could also be exposed to reputational risk.

FHLBanks rely on the Office of Finance for, among other services, the issuance and servicing of consolidated obligations, which represent their primary source of funds. A failure or an interruption in these services could disrupt the FHLBanks' access to these funds.

While each of the FHLBanks and the Office of Finance has a business continuity plan in place, the FHLBanks' and the Office of Finance's ability to conduct and manage their businesses may be constrained by a critical vendor or a third-party failure.

Failures or circumventions of the financial reporting controls and procedures that each of the FHLBanks and the Office of Finance maintain, and that the Office of Finance relies upon to prepare the FHLBanks Combined Financial Report, could adversely affect the accuracy and meaningfulness of the information contained in this Combined Financial Report.

Each FHLBank is responsible for establishing and maintaining disclosure controls and procedures and internal control over financial reporting with respect to the information and financial data provided to the Office of Finance. The Office of Finance is not required to establish and maintain disclosure controls and procedures and internal control over financial reporting in the same manner as those maintained by each FHLBank. Instead, the Office of Finance relies on each FHLBank management's certification and representation regarding the accuracy and completeness, in all material respects, of its data submitted to the Office of Finance and has established controls and procedures concerning: (1) each FHLBank's submission of information and financial data to the Office of Finance, (2) the process of combining the financial statements of the individual FHLBanks, and (3) the review of such information. However, an FHLBank's or the Office of Finance's failure to detect material weaknesses or circumventions of its respective key controls could have an adverse effect on the accuracy and meaningfulness of the FHLBanks Combined Financial Report. (See *Controls and Procedures* for more information regarding each FHLBank's management assessment of its individual internal control over financial reporting and evaluation of its disclosure controls and procedures, and the Office of Finance's controls and procedures over the combined financial reporting combining process.)

PROPERTIES AND GEOGRAPHIC DISTRIBUTION

The FHLBanks operate in all 50 states, the District of Columbia, and U.S. territories. Each FHLBank serves members whose principal place of business is located in its specifically-defined geographic district. In addition to their principal business location, each of the FHLBanks and the Office of Finance also maintain leased, off-site, back-up facilities.

Table 4 - Properties and Geographic Distribution

FHLBank	Address	Owned/ Leased	States and Territories	Number of Members
Boston	800 Boylston St. 9th Fl. Boston, MA 02199	Leased	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	446
New York	101 Park Ave. New York, NY 10178-0599	Leased	New Jersey, New York, Puerto Rico, U.S. Virgin Islands	329
Pittsburgh	601 Grant St. Pittsburgh, PA 15219-4455	Leased	Delaware, Pennsylvania, West Virginia	307
Atlanta	1475 Peachtree St., N.E. Atlanta, GA 30309	Owned	Alabama, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia	932
Cincinnati	221 East Fourth St. Ste. 600 Cincinnati, OH 45202	Leased	Kentucky, Ohio, Tennessee	699
Indianapolis	8250 Woodfield Crossing Blvd. Indianapolis, IN 46240	Owned	Indiana, Michigan	397
Chicago	200 East Randolph Dr. Chicago, IL 60601	Leased	Illinois, Wisconsin	740
Des Moines	Skywalk Level 801 Walnut St. Ste. 200 Des Moines, IA 50309-3513	Leased	Alaska, American Samoa, Guam, Hawaii, Idaho, Iowa, Minnesota, Missouri, Montana, North Dakota, Commonwealth of the Northern Mariana Islands, Oregon, South Dakota, Utah, Washington, Wyoming	1,445
Dallas	8500 Freeport Pkwy. South Ste. 600 Irving, TX 75063-2547	Owned	Arkansas, Louisiana, Mississippi, New Mexico, Texas	835
Topeka	One Security Benefit Pl. Ste. 100 Topeka, KS 66606-2444	Leased	Colorado, Kansas, Nebraska, Oklahoma	768
San Francisco	600 California St. San Francisco, CA 94108	Leased	Arizona, California, Nevada	340
Office of Finance	1818 Library St. Ste. 200 Reston, VA 20190	Leased		

See *Market for Capital Stock and Related Stockholder Matters* for more information on FHLBank members.

LEGAL PROCEEDINGS

The FHLBanks are subject to various pending legal proceedings arising in the normal course of business. The FHLBanks and the Office of Finance are not a party to, nor are they subject to, any pending legal proceedings, except the following identified proceedings, where the ultimate liability of the FHLBanks, if any, arising out of these proceedings is likely to have a material effect on the results of operations, financial condition, or liquidity of the FHLBanks or that are otherwise material to the FHLBanks. (See each FHLBank's 2015 SEC Form 10-K under *Part I. Item 3-Legal Proceedings* for additional information, including updates, to its legal proceedings.)

Legal Proceedings Relating to the Purchase of Certain Private-label MBS

As of December 31, 2015, each of the FHLBanks of Boston, Chicago, Des Moines, and San Francisco is a plaintiff in continued legal proceedings that relate to the purchases of certain private-label MBS. Defendants in these lawsuits include entities and their affiliates that buy, sell, or distribute the FHLBanks' consolidated obligations or are derivative counterparties. These defendants and their affiliates may be members or former members of the plaintiff FHLBanks or other FHLBanks. As a result of its merger with the FHLBank of Seattle, the FHLBank of Des Moines became involved in a number of legal proceedings initiated by the FHLBank of Seattle against various entities relating to its purchases and subsequent impairment of certain private-label MBS. Although the FHLBank of Seattle sold all private-label MBS during the three months ended March 31, 2015, the FHLBank of Des Moines continues to be involved in these legal proceedings.

Legal Proceedings Relating to the Lehman Bankruptcy

See *Note 21 - Commitments and Contingencies* - *Lehman Bankruptcy* to the accompanying combined financial statements for information on legal proceedings relating to bankruptcy proceedings involving Lehman Brothers Holdings, Inc.

MARKET FOR CAPITAL STOCK AND RELATED STOCKHOLDER MATTERS

As a cooperative, each FHLBank conducts its advances business and mortgage loan programs almost exclusively with its members. Members and former members own all of the FHLBanks' capital stock. There is no established marketplace for the FHLBanks' stock and it is not publicly traded. FHLBank stock is purchased by members at the stated par value of $100 per share and may be redeemed/repurchased at its stated par value of $100 per share, subject to applicable redemption periods and certain conditions and limitations. (See *Note 17 - Capital* to the accompanying combined financial statements and *Business - Capital, Capital Rules, and Dividends* for more information.)

At December 31, 2015, the FHLBanks had 349 million shares of capital stock outstanding, including mandatorily redeemable capital stock. The FHLBanks are not required to register their securities under the Securities Act of 1933, as amended; however, each FHLBank is required to register a class of its stock under the Securities Exchange Act of 1934, as amended.

Table 5 presents combined regulatory capital stock, which includes mandatorily redeemable capital stock, held by type of member and Table 6 presents FHLBank membership by type of member.

Table 5 - Regulatory Capital Stock Held by Type of Member
(dollars in millions)

	December 31, 2015		December 31, 2014	
	Amount	Percentage of Regulatory Capital Stock	Amount	Percentage of Regulatory Capital Stock
Commercial banks	$ 21,070	60.4%	$ 21,677	59.7%
Thrifts	4,892	14.0%	5,067	13.9%
Insurance companies	4,821	13.8%	3,807	10.5%
Credit unions	3,394	9.7%	3,147	8.7%
Community development financial institutions	8	—	7	—
Total GAAP capital stock	34,185	97.9%	33,705	92.8%
Mandatorily redeemable capital stock	745	2.1%	2,631	7.2%
Total combined regulatory capital stock	$ 34,930	100.0%	$ 36,336	100.0%

Table 6 - Membership by Type of Member

	December 31, 2015		December 31, 2014	
	Number	Percentage of Total Members	Number	Percentage of Total Members
Commercial banks	4,688	64.8%	4,878	66.2%
Credit unions	1,319	18.2%	1,272	17.3%
Thrifts	818	11.3%	882	12.0%
Insurance companies	372	5.1%	304	4.1%
Community development financial institutions	41	0.6%	31	0.4%
Total	7,238	100.0%	7,367	100.0%

The information on regulatory capital stock presented in Table 7 is accumulated at the holding-company level. The percentage of total regulatory capital stock identified in Table 7 for each holding company was computed by dividing all regulatory capital stock owned by subsidiaries of that holding company by total combined regulatory capital stock. These percentage concentrations do not represent ownership concentrations in an individual FHLBank.

Table 7 - Top 10 Regulatory Capital Stockholders by Holding Company at December 31, 2015
(dollars in millions)

Holding Company Name(1)	FHLBank Districts(2)	Regulatory Capital Stock(3)	Percentage of Total Regulatory Capital Stock	Mandatorily Redeemable Capital Stock
JPMorgan Chase & Co.	Pittsburgh, Cincinnati, Chicago, Des Moines, San Francisco	$ 2,628	7.5%	$ 420
Wells Fargo & Company	Des Moines, Dallas, Topeka, San Francisco	1,539	4.4%	4
Citigroup Inc.	New York, Dallas, San Francisco	998	2.9%	81
The PNC Financial Services Group, Inc.	New York, Pittsburgh, Atlanta, Cincinnati	920	2.6%	38
Capital One Financial Corporation	Atlanta, Dallas	884	2.5%	—
MetLife, Inc.	Boston, New York, Pittsburgh, Des Moines	842	2.4%	40
Bank of America Corporation	Boston, New York, Atlanta, Des Moines, San Francisco	739	2.1%	67
New York Community Bancorp, Inc.	New York	664	1.9%	—
Navy Federal Credit Union	Atlanta	643	1.8%	—
Banco Santander, S.A.	New York, Pittsburgh	604	1.7%	—
		$ 10,461	29.8%	$ 650

(1) Holding company information was obtained from the Federal Reserve System's web site, the National Information Center (NIC), and SEC filings. The NIC is a central repository of data about banks and other institutions for which the Federal Reserve System has a supervisory, regulatory, or research interest, including both domestic and foreign banking organizations operating in the United States.
(2) At December 31, 2015, each holding company had subsidiaries with regulatory capital stock holdings in these FHLBank districts.
(3) Includes FHLBank capital stock that is considered to be mandatorily redeemable, which is classified as a liability under GAAP.

Table 8 presents information on the five largest regulatory capital stockholders by FHLBank at December 31, 2015. The information presented on capital stock in Table 8 is for individual FHLBank regulatory capital stockholders. The data is not aggregated to the holding-company level. Some of the institutions listed may be affiliates of the same holding company, and some of the institutions listed may have affiliates that are regulatory capital stockholders that are not listed in the table. Each FHLBank describes its risk management policies, including disclosures about its concentration risk, if any, in its periodic reports filed with the SEC. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report*.)

Table 8 - Top 5 Regulatory Capital Stockholders by FHLBank at December 31, 2015
(dollars in millions)

District	Name	Holding Company Name(1)	Regulatory Capital Stock	Percentage of FHLBank Regulatory Capital Stock(2)	Mandatorily Redeemable Capital Stock
Boston	Citizens Bank, N.A.		$ 308	13.0 %	$ —
	People's United Bank, N.A.		154	6.5 %	—
	Webster Bank, National Association		138	5.8 %	—
	Massachusetts Mutual Life Insurance Company		74	3.1 %	—
	Berkshire Bank		65	2.7 %	—
			$ 739	31.1 %	$ —
New York	Citibank, N.A.	Citigroup Inc.	$ 913	16.3 %	$ —
	Metropolitan Life Insurance Company	MetLife, Inc.	666	11.9 %	—
	New York Community Bank	New York Community Bancorp, Inc.	626	11.1 %	—
	HSBC Bank USA, National Association		323	5.8 %	—
	First Niagara Bank, National Association		280	5.0 %	—
			$ 2,808	50.1 %	$ —

District	Name	Holding Company Name(1)	Regulatory Capital Stock	Percentage of FHLBank Regulatory Capital Stock(2)	Mandatorily Redeemable Capital Stock
Pittsburgh	PNC Bank, National Association(3)	The PNC Financial Services Group, Inc.	$ 882	24.9 %	$ —
	Santander Bank, National Association(3)	Banco Santander, S.A.	601	16.9 %	—
	Chase Bank USA, N.A.	JPMorgan Chase & Co.	424	12.0 %	—
	Ally Bank		391	11.0 %	—
	TD Bank, N.A.		104	3.0 %	—
			$ 2,402	67.8 %	$ —
Atlanta	Capital One, National Association	Capital One Financial Corporation	$ 869	17.0 %	$ —
	Navy Federal Credit Union	Navy Federal Credit Union	643	12.6 %	—
	Bank of America, National Association	Bank of America Corporation	578	11.3 %	—
	Branch Banking and Trust Company		290	5.6 %	—
	EverBank		265	5.2 %	—
			$ 2,645	51.7 %	$ —
Cincinnati	JPMorgan Chase Bank, National Association	JPMorgan Chase & Co.	$ 1,533	34.3 %	$ —
	U.S. Bank, N.A.		475	10.6 %	—
	Fifth Third Bank		248	5.6 %	—
	The Huntington National Bank		157	3.5 %	—
	KeyBank NA		122	2.8 %	—
			$ 2,535	56.8 %	$ —
Indianapolis	Flagstar Bank, FSB		$ 170	11.0 %	$ —
	Lincoln National Life Insurance Company		106	6.9 %	—
	Jackson National Life Insurance Company		99	6.4 %	—
	Tuebor Captive Insurance Company, LLC		78	5.1 %	—
	IAS Services, LLC		75	4.9 %	—
			$ 528	34.3 %	$ —
Chicago	One Mortgage Partners Corp.	JPMorgan Chase & Co.	$ 250	12.8 %	$ —
	The Northern Trust Company		200	10.2 %	—
	BMO Harris Bank, National Association		119	6.1 %	—
	State Farm Bank, F.S.B		109	5.5 %	—
	Associated Bank, National Association		74	3.8 %	—
			$ 752	38.4 %	$ —
Des Moines	Wells Fargo Bank, National Association	Wells Fargo & Company	$ 1,490	30.9 %	$ —
	TH Insurance Holdings Company LLC		156	3.3 %	—
	Old Georgetown Insurance Company, LLC		150	3.1 %	—
	HICA Education Loan Corporation		147	3.0 %	—
	Transamerica Life Insurance Company		104	2.2 %	—
			$ 2,047	42.5 %	$ —

District	Name	Holding Company Name(1)	Regulatory Capital Stock	Percentage of FHLBank Regulatory Capital Stock(2)	Mandatorily Redeemable Capital Stock
Dallas	Prosperity Bank		$ 69	4.4 %	$ —
	Centennial Bank		60	3.8 %	—
	Texas Capital Bank, National Association		51	3.3 %	—
	Southside Bank(3)		51	3.3 %	—
	LegacyTexas Bank		47	3.1 %	—
			$ 278	17.9 %	$ —
Topeka	BOKF, National Association		$ 219	18.1 %	$ —
	MidFirst Bank		173	14.3 %	—
	Capitol Federal Savings Bank		119	9.8 %	—
	Security Benefit Life Insurance Company		50	4.1 %	—
	United of Omaha Life Insurance Company		35	2.9 %	—
			$ 596	49.2 %	$ —
San Francisco	JPMorgan Chase Bank, National Association(4)	JPMorgan Chase & Co.	$ 400	14.6 %	$ 400
	Bank of the West		183	6.7 %	—
	First Republic Bank		135	4.9 %	—
	CIT Bank, National Association		99	3.6 %	—
	Bank of America California, N.A.	Bank of America Corporation	93	3.4 %	—
			$ 910	33.2 %	$ 400

(1) The holding company name is only shown for each Top 5 regulatory capital stockholder that has its holding company listed in Table 7 - Top 10 Regulatory Capital Stockholders by Holding Company at December 31, 2015.
(2) For consistency with the individual FHLBank's presentation of its Top 5 regulatory capital stockholders at December 31, 2015, amounts used to calculate percentages of FHLBank regulatory capital stock may be based on numbers in thousands. Accordingly, recalculations using the amounts in millions as presented in Table 8 may not produce the same results.
(3) Indicates that an officer or director of the stockholder was an FHLBank director at December 31, 2015.
(4) Non-member stockholder that is holding legacy capital stock due to out-of-district acquisition, merger, or relocation.

SELECTED FINANCIAL DATA

(dollars in millions)	2015	2014	2013	2012	2011
Selected Statement of Condition Data at December 31,					
Investments(1)	$ 273,684	$ 270,217	$ 242,863	$ 265,825	$ 271,265
Advances	634,022	570,726	498,599	425,750	418,157
Mortgage loans held for portfolio	44,603	43,615	44,508	49,548	53,509
Allowance for credit losses on mortgage loans	(18)	(52)	(88)	(132)	(138)
Total assets	969,353	913,343	834,178	762,445	766,080
Consolidated obligations					
Discount notes	494,055	362,303	293,296	216,282	190,149
Bonds	411,927	486,031	473,845	475,856	506,975
Total consolidated obligations	905,982	848,334	767,141	692,138	697,124
Mandatorily redeemable capital stock	745	2,631	4,998	6,929	8,013
Subordinated notes(2)	944	944	944	1,000	1,000
Capital					
Total capital stock(3)	34,185	33,705	33,375	33,535	35,542
Additional capital from merger(4)	194	—	—	—	—
Retained earnings	14,325	13,244	12,184	10,515	8,571
Accumulated other comprehensive income (loss)	(634)	54	(511)	(1,510)	(4,298)
Total capital	48,070	47,003	45,048	42,540	39,815
Selected Statement of Income Data for the year ended December 31,					
Net interest income	$ 3,548	$ 3,522	$ 3,400	$ 4,049	$ 4,177
Provision (reversal) for credit losses	4	(21)	(19)	21	71
Net interest income after provision (reversal) for credit losses	3,544	3,543	3,419	4,028	4,106
Non-interest income (loss)	843	17	329	(154)	(1,097)
Non-interest expense	1,199	1,046	943	975	1,060
Assessments	332	269	293	296	348
Net income	$ 2,856	$ 2,245	$ 2,512	$ 2,603	$ 1,601
Selected Other Data for the year ended December 31,					
Cash and stock dividends	$ 1,514	$ 1,185	$ 843	$ 659	$ 568
Dividend payout ratio(5)	53.01%	52.78%	33.56%	25.32%	35.48%
Return on average equity(6)	6.11%	4.93%	5.85%	6.47%	3.79%
Return on average assets	0.31%	0.26%	0.32%	0.34%	0.19%
Average equity to average assets	5.08%	5.26%	5.50%	5.27%	5.11%
Net interest margin(7)	0.39%	0.41%	0.44%	0.53%	0.51%
Selected Other Data at December 31,					
Combined GAAP capital-to-asset ratio	4.96%	5.15%	5.40%	5.58%	5.20%
Combined regulatory capital-to-assets ratio(8)	5.10%	5.43%	6.06%	6.69%	6.91%

(1) Investments consist of interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, trading securities, available-for-sale securities, and held-to-maturity securities.

(2) The subordinated notes outstanding, issued by the FHLBank of Chicago, mature on June 13, 2016. The subordinated notes are not obligations of, and are not guaranteed by, the U. S. government or any of the FHLBanks other than the FHLBank of Chicago. (See *Note 16 - Subordinated Notes* to the accompanying combined financial statements for additional information on subordinated notes.)

(3) FHLBank capital stock is redeemable at the request of a member subject to the statutory redemption periods and other conditions and limitations. (See *Note 17 - Capital* to the accompanying combined financial statements for additional information on the statutory redemption periods and other conditions and limitations.)

(4) Additional capital from merger primarily represents the amount of the FHLBank of Seattle's closing retained earnings balance as of the merger date, adjusted for fair value and other purchase accounting adjustments, and identified intangible assets, and is net of dividends paid by the FHLBank of Des Moines subsequent to the merger date. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* and *Note 17 - Capital* to the accompanying combined financial statements for additional information.)

(5) Dividend payout ratio is equal to dividends declared in the period expressed as a percentage of net income in the period. This ratio may not be as relevant to the combined balances because there are no shareholders at the FHLBank System-wide level.

(6) Return on average equity is equal to net income expressed as a percentage of average total capital.

(7) Net interest margin is equal to net interest income represented as a percentage of average interest-earning assets.

(8) The combined regulatory capital-to-assets ratio is calculated based on the FHLBanks' combined regulatory capital as a percentage of combined total assets. (See *Note 17 - Capital* to the accompanying combined financial statements for a definition and discussion of regulatory capital.)

FINANCIAL DISCUSSION AND ANALYSIS OF
COMBINED FINANCIAL CONDITION AND COMBINED RESULTS OF OPERATIONS

Investors should read this financial discussion and analysis of combined financial condition and combined results of operations together with the combined financial statements and the accompanying notes in this Combined Financial Report of the FHLBanks. Each FHLBank discusses its financial condition and results of operations in its periodic reports filed with the SEC. Each FHLBank's Annual Report on Form 10-K and Quarterly Report on Form 10-Q filed with the SEC contains, as required by applicable SEC rules, a "Management's Discussion and Analysis of Financial Condition and Results of Operations," commonly called MD&A. The SEC notes that one of the principal objectives of MD&A is "to provide a narrative explanation of a registrant's financial statements that enables investors to see the registrant through the eyes of management." Because there is no centralized management of the FHLBanks that can provide a system-wide "eyes of management" view of the FHLBanks as a whole, this Combined Financial Report does not contain a conventional MD&A. Instead, a "Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations" is prepared by the Office of Finance using information provided by the individual FHLBanks. This Financial Discussion and Analysis does not generally include a separate description of how each FHLBank's operations affect the combined financial condition and combined results of operations. That level of information about each of the FHLBanks is addressed in each respective FHLBank's periodic reports filed with the SEC. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report* and *Supplemental Information - Individual FHLBank Selected Financial Data and Financial Ratios*.)

The combined financial statements include the financial records of the FHLBanks. (See *Condensed Combining Schedules* for information regarding each individual FHLBank's results.) Transactions among the FHLBanks have been eliminated in accordance with combination accounting principles related to consolidation under GAAP. (See *Note 1 - Summary of Significant Accounting Policies* to the accompanying combined financial statements and *Interbank Transfers of Consolidated Bonds and Their Effect on Combined Net Income* for more information.)

Unless otherwise stated, dollar amounts disclosed in this Combined Financial Report represent values rounded to the nearest million. Dollar amounts rounding to less than one million are not reflected in this Combined Financial Report.

Forward-Looking Information

Statements contained in this report, including statements describing the objectives, projections, estimates, or future predictions of the FHLBanks and Office of Finance, may be "forward-looking statements." These statements may use forward-looking terminology, such as "anticipates," "believes," "could," "estimates," "may," "should," "will," or their negatives or other variations on these terms. Investors should note that forward-looking statements, by their nature, involve risks or uncertainties, including those set forth in the *Risk Factors* section of this report. Therefore, the actual results could differ materially from those expressed or implied in these forward-looking statements or could affect the extent to which a particular objective, projection, estimate, or prediction is realized.

These forward-looking statements involve risks and uncertainties including, but not limited to, the following:

- changes in the general economy, money and capital markets, the rate of inflation (or deflation), employment rates, housing market activity and housing prices, the size and volatility of the residential mortgage market, and uncertainty regarding the global economy;

- volatility of market prices, interest rates, and indices or other factors that could affect the value of investments or collateral held by the FHLBanks resulting from the effects of, and changes in, various monetary or fiscal policies and regulations, including those determined by the Federal Reserve Board and the Federal Deposit Insurance Corporation (FDIC), or a decline in liquidity in the financial markets;

- political events, including legislative, regulatory, judicial, or other developments that affect the FHLBanks, their members, counterparties, underwriters, or investors in the consolidated obligations of the FHLBanks, including changes in the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), housing finance and government-sponsored enterprise (GSE) reform, Federal Housing Finance Agency (FHFA) actions, or regulations that affect FHLBank operations, and regulatory oversight;

- competitive forces, including other sources of funding available to FHLBank members and other entities borrowing funds in the capital markets;

- disruptions in the credit and debt markets and the effect on future funding costs, sources, and availability;

- demand for FHLBank advances resulting from changes in FHLBank members' deposit flows and credit demands;

- loss of members and repayment of advances made to those members due to institutional failures, consolidations, voluntary withdrawals, or involuntary terminations from FHLBank membership, and changes in the financial health of members;

- changes in domestic and foreign investor demand for consolidated obligations or the terms of derivative transactions and similar transactions, including changes in the relative attractiveness of consolidated obligations as compared to other investment opportunities, changes in support from FHLBank debt underwriters, and changes resulting from any modification of credit ratings;

- the availability of acceptable institutional counterparties for business transactions, including derivative transactions used to manage interest-rate risk;

- the ability to introduce new products and services and successfully manage the risks associated with those products and services, including new types of collateral used to secure advances; and

- the effect of new accounting guidance, including the development of supporting systems and related internal controls.

Neither the FHLBanks nor the Office of Finance undertakes any obligation to publicly update or revise any forward-looking statements contained in this Combined Financial Report, whether as a result of new information, future events, changed circumstances, or any other reason.

Executive Summary

This overview highlights selected information and may not contain all of the information that is important to readers of this Combined Financial Report. For a more complete understanding of events, trends, and uncertainties, this executive summary should be read together with the Financial Discussion and Analysis section in its entirety and the FHLBanks' combined financial statements and related notes.

Overview

The FHLBanks are GSEs, federally-chartered, but privately capitalized and independently managed. The FHLBanks together with the Office of Finance, the fiscal agent of the FHLBanks, comprise the FHLBank System. All FHLBanks and the Office of Finance operate under the supervisory and regulatory framework of the FHFA.

The FHLBanks are cooperative institutions, meaning that their stockholders are also the FHLBanks' primary customers. FHLBank capital stock is not publicly traded; it is purchased and redeemed by members or repurchased by an FHLBank at the stated par value of $100 per share. The FHLBanks are generally designed to expand and contract in asset size as the needs of member financial institutions and their communities change over time.

Each FHLBank's primary business is to serve as a financial intermediary between the capital markets and its members. This intermediation process involves raising funds by issuing debt, known as consolidated obligations, in the capital markets and lending those proceeds to member institutions in the form of secured loans, known as advances. Each FHLBank's funding is principally obtained from consolidated obligations issued through the Office of Finance on behalf of the FHLBanks. Consolidated obligations are the joint and several obligation of each FHLBank. FHLBank debt issuance is generally driven by members' needs for advances.

The FHLBanks seek to maintain a balance between their public policy mission and their goal of providing adequate returns on member capital. The FHLBanks strive to achieve this balance by providing value to their members through advances, other services, and dividend payments. The net interest spread between the annualized yield on total interest-earning assets and the annualized yield on total interest-bearing liabilities, combined with earnings on invested capital, are the FHLBanks' primary sources of earnings. However, due to the FHLBanks' cooperative structures, the FHLBanks generally earn a narrow net interest spread.

Credit Ratings

The FHLBank System's ability to raise funds in the capital markets at narrow spreads to the U.S. Treasury yield curve is due largely to the FHLBanks' status as GSEs, which is reflected in its consolidated obligations receiving the same credit rating as the government bond credit rating of the United States, even though the consolidated obligations are not obligations of the United States and are not guaranteed by either the United States or any government agency. In addition to ratings on the FHLBanks' consolidated obligations, each FHLBank is rated individually by Moody's Investors Service (Moody's) and Standard & Poor's Ratings Services (S&P). (See *Recent Rating Agency Actions* for more information.) Investors should note that a rating issued by a rating agency is not a recommendation to buy, sell, or hold securities, and that the ratings may be revised or withdrawn by the rating agency at any time. Investors should evaluate the rating of each rating agency independently. Moody's, S&P, or other rating organizations could downgrade or upgrade the credit rating of the U.S. government and, in turn, GSEs, including the FHLBanks and their consolidated obligations.

Business Environment

The primary external factors that affect the FHLBanks' combined financial condition and results of operations include (1) the general state of the economy and financial markets; (2) the conditions in the housing markets; (3) interest rate levels and volatility; and (4) the legislative and regulatory environment.

Economy and Financial Markets. As part of their overall business strategy, the FHLBanks' members typically use wholesale funding in the form of advances along with other sources of funding, such as retail deposits, as sources of liquidity to make residential mortgage loans. The FHLBanks' overall results of operations are influenced by the economy and financial markets, and, in particular, by the FHLBanks' member demand for wholesale funding and the FHLBanks' ability to maintain sufficient access to funding.

The FHLBanks' flexibility in utilizing various funding tools, in combination with a diverse investor base and their unique status as GSEs, have helped ensure reliable market access and demand for FHLBank consolidated obligations, despite market uncertainty and regulations affecting debt underwriters. The FHLBank System continued to meet its funding needs in response to growth in advances during the year ended December 31, 2015.

In December 2015, the Federal Open Market Committee expressed its view that, since it met in October 2015, information received suggests that economic activity expanded at a moderate pace. Inflation continued to run below the Federal Open Market Committee's longer-run objective of two percent; however, inflation is expected to rise to two percent over the medium term. The Federal Open Market Committee also stated that it is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities (MBS) back into agency MBS, and of rolling over maturing Treasury securities at auction.

The unemployment rate declined to 5.0% in December 2015, compared to 5.6% in December 2014. U.S. real gross domestic product increased 2.4% in 2015 according to the second estimate released by the Bureau of Economic Analysis, which is the same rate as 2014.

Conditions in Housing Markets. Conditions in the U.S. housing markets primarily affect the FHLBanks through the creation of demand for, and yield on, advances and mortgage loans, as well as the yield on investments in mortgage-backed securities. Total existing home sales in 2015 increased 7% on a year-over-year basis, and were the highest since 2006. Additionally, the increased equity that has been gained from rising home prices reduced the number of homeowners whose mortgage loan balances exceed the fair market value of their homes and reduced the number of distressed sales of homes to 8% of existing-home sales in December 2015, compared to 11% in December 2014. However, limited housing inventory and strong demand have continued to push home prices higher, leading to declining affordability for prospective buyers in many markets, particularly first-time buyers. For the year ended December 31, 2015, the share of first-time homebuyers represented an average of 30% of existing-home sales. In January 2015, the Federal Housing Administration reduced annual mortgage insurance premiums to encourage first-time buyers to purchase a home.

Interest Rate Levels and Volatility. The level and volatility of interest rates affect FHLBank member demand for wholesale funding. They also impact the FHLBanks' combined results of operations primarily through net interest income and the valuation of certain assets and liabilities. In general, average short-term rates were higher and average long-term rates were lower in the year ended December 31, 2015, compared to the year ended December 31, 2014; however, volatility on Treasury rates was generally low.

Table 9 - Key Interest Rates

	2015		2014		2013	
	Ending	Average	Ending	Average	Ending	Average
Federal funds effective	0.20%	0.13%	0.06%	0.09%	0.07%	0.11%
3-month LIBOR	0.61%	0.32%	0.26%	0.23%	0.25%	0.27%
2-year LIBOR	1.18%	0.88%	0.90%	0.62%	0.49%	0.44%
10-year LIBOR	2.19%	2.18%	2.28%	2.65%	3.09%	2.47%
2-year U.S. Treasury	1.05%	0.68%	0.67%	0.45%	0.38%	0.30%
10-year U.S. Treasury	2.27%	2.13%	2.17%	2.53%	3.03%	2.34%
30-year fixed-rate mortgage rate	4.19%	4.04%	4.04%	4.35%	4.72%	4.20%

Source: Bloomberg

The Federal Reserve Board, acting through its Federal Open Market Committee, decided in December 2015, that given the economic outlook, to raise the target range for the federal funds rate to 0.25% to 0.50%. In determining the timing and size of future adjustments to the target range for the federal funds rate, the Federal Open Market Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and two percent inflation.

Through much of 2015, the cost of FHLBank consolidated obligations as measured by the spread to comparative U.S. Treasury rates has remained relatively stable. However, the spread to three-month LIBOR deteriorated in the last half of 2015 as a result of actions taken by foreign central banks to support their currencies and also due to heavy issuance of term corporate debt that is swapped to LIBOR. Table 10 presents the FHLBanks' funding spreads to LIBOR.

Table 10 - Funding Spreads
(in basis points)

	12-Month Average Spread		Ending Spread	
	2015	2014	2015	2014
3-month LIBOR	(14.7)	(15.6)	(20.2)	(14.8)
2-year LIBOR	(7.8)	(8.3)	(0.2)	(11.1)
5-year LIBOR	6.8	4.3	16.2	1.5
10-year LIBOR	49.1	36.1	59.5	39.9

Legislative and Regulatory Environment. The legislative and regulatory environment in which each FHLBank and its members and underwriters operate continues to evolve as a result of regulations enacted pursuant to the Housing and Economic Recovery Act of 2008, as amended (Housing Act), the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act), and deliberations by the U.S. Congress regarding housing finance and GSE reform. The FHLBanks' business operations, funding costs, rights, obligations, and/or the environment in which the FHLBanks carry out their mission are likely to continue to be significantly affected by these changes. (See *Legislative and Regulatory Developments* for more information.)

FHLBanks of Des Moines and Seattle Merger

Effective May 31, 2015, the FHLBank of Des Moines and the FHLBank of Seattle completed the previously announced merger pursuant to the definitive merger agreement, dated September 25, 2014. At closing, the FHLBank of Seattle merged with and into the FHLBank of Des Moines, with the FHLBank of Des Moines surviving the merger as the continuing FHLBank. The first date of operations for the combined FHLBank was June 1, 2015. (See *Note 3- FHLBanks of Des Moines and Seattle Merger* to the accompanying combined financial statements for additional information regarding the merger.)

FHLBanks' Financial Highlights

Combined Financial Condition. Total assets were $969.4 billion at December 31, 2015, an increase of 6.1% from $913.3 billion at December 31, 2014. Advances were $634.0 billion at December 31, 2015, an increase of 11.1% from $570.7 billion at December 31, 2014, as a result of higher member demand. Investments were $273.7 billion at December 31, 2015, an increase of 1.3% from $270.2 billion at December 31, 2014, driven by an increase in securities purchased under agreements to resell, partially offset by decreases in federal funds sold and investment securities. Mortgage loans, net were $44.6 billion at December 31, 2015, an increase of 2.3% from $43.6 billion at December 31, 2014, primarily as a result of certain FHLBanks increasing purchases of mortgage loans from members.

Total liabilities were $921.3 billion at December 31, 2015, an increase of 6.3% from $866.3 billion at December 31, 2014. This increase was primarily the result of an increase in consolidated obligations, partially offset by a decrease in mandatorily redeemable capital stock. Total consolidated obligations were $906.0 billion at December 31, 2015, an increase of 6.8% from $848.3 billion at December 31, 2014. This increase was driven by increased funding needs related to the growth in advances and consisted of a 36.4% increase in consolidated discount notes and a 15.2% decrease in consolidated bonds. Mandatorily redeemable capital stock was $745 million at December 31, 2015, a decrease of 71.7% from $2.6 billion at December 31, 2014. This decrease was due to repurchases and redemptions in connection with the merger of the FHLBank of Des Moines and the FHLBank of Seattle, effective May 31, 2015, as well as additional repurchases and redemptions by certain other FHLBanks.

Total GAAP capital was $48.1 billion at December 31, 2015, an increase of 2.3% from $47.0 billion at December 31, 2014. This increase was due primarily to growth in retained earnings and an increase in capital stock outstanding, partially offset by a decline in accumulated other comprehensive income (loss). Retained earnings were $14.3 billion at December 31, 2015, an increase of 8.2% from $13.2 billion at December 31, 2014, resulting from net income of $2,856 million, offset by dividends of $1,462 million.

Combined Results of Operations. Net income for the year ended December 31, 2015, was $2,856 million, an increase of $611 million, or 27.2%, compared to the year ended December 31, 2014. This increase resulted primarily from an increase in non-interest income.

Net interest income after provision (reversal) for credit losses for the year ended December 31, 2015, was $3,544 million, an increase of $1 million, or less than 0.1%, compared to the year ended December 31, 2014. Net interest margin for the year ended December 31, 2015, was 0.39%, a decrease of 2 basis points compared to the year ended December 31, 2014. Interest income was $8,156 million for the year ended December 31, 2015, an increase of $124 million, or 1.5%, compared to the year ended December 31, 2014. This increase was due primarily to an increase in the average balance of advances, partially offset by lower yields on mortgage loans and investments and a decrease in the average balance of investments. Interest expense was $4,608 million for the year ended December 31, 2015, an increase of $98 million, or 2.2%, compared to the year ended December 31, 2014. This increase was due primarily to an increase in the average balance of consolidated obligations, partially offset by lower yields on consolidated obligations.

Non-interest income for the year ended December 31, 2015, was $843 million, an increase of $826 million compared to the year ended December 31, 2014. This increase was due mainly to higher gains on litigation settlements, as well as net gains on derivatives and hedging activities, partially offset by decreases in the fair value of trading securities.

Non-interest expense for the year ended December 31, 2015, was $1,199 million, an increase of $153 million, or 14.6%, compared to the year ended December 31, 2014. This increase was due primarily to the FHLBank of Seattle terminating an arrangement related to incurrence of certain private-label mortgage-backed securities litigation expenses and related charges during the second quarter of 2015, as well as merger-related expenses.

Affordable Housing Program assessments for the year ended December 31, 2015, were $332 million, an increase of $63 million, or 23.4%, compared to the year ended December 31, 2014. Affordable Housing Program assessments result from individual FHLBank income subject to assessments.

See *Combined Financial Condition* and *Combined Results of Operations* for further information.

Combined Financial Condition

Total assets were $969.4 billion at December 31, 2015, an increase of 6.1% from $913.3 billion at December 31, 2014, consisting of increases in advances and investments, partially offset by a decrease in cash. Total liabilities were $921.3 billion at December 31, 2015, an increase of 6.3% from $866.3 billion at December 31, 2014. This increase was primarily the result of an increase in consolidated obligations, partially offset by a decrease in mandatorily redeemable capital stock. The following discussion contains information on the major categories of the Combined Statement of Condition: advances, investments, mortgage loans, consolidated obligations, deposits, and capital.

Advances

The FHLBanks provide liquidity to members and housing associates through secured loans (advances), which may be used for residential mortgages, community investments, and other services for housing and community development. Each FHLBank makes advances based on the security of mortgage loans and other types of eligible collateral pledged by, and the creditworthiness and financial condition of, the borrowing institutions.

Table 11 presents advances outstanding by product type, some of which include advances that contain embedded put or call options. A member either can sell an embedded option to an FHLBank or can purchase an embedded option from an FHLBank. (See *Note 9 - Advances* to the accompanying combined financial statements for additional information on putable and callable advances and their potential effect on advance maturities.)

Table 11 - Advances Outstanding by Product Type
(dollars in millions)

	December 31, 2015		December 31, 2014	
	Amount	Percentage of Total	Amount	Percentage of Total
Fixed-rate	$ 286,444	45.4%	$ 284,305	50.2%
Adjustable/variable-rate indexed	307,181	48.7%	244,787	43.3%
Hybrid(1)	19,782	3.1%	17,679	3.1%
Amortizing/mortgage-matched(2)	11,346	1.8%	11,498	2.0%
Convertible	5,329	0.8%	6,549	1.2%
Other advances	1,151	0.2%	854	0.2%
Total par value	631,233	100.0%	565,672	100.0%
Other(3)	2,789		5,054	
Total	$ 634,022		$ 570,726	

(1) A hybrid advance contains a one-time option to embed either a floor or cap at any time during the life of the advance. A hybrid advance may be either fixed- or variable-rate at the date of issuance.
(2) Amortizing advances are medium- or long-term loans with amortization schedules. These include but are not limited to index-amortizing advances, which require repayment in accordance with predetermined amortization schedules linked to various indices. Generally, as market interest rates rise (fall), the maturity of an index-amortizing advance extends (contracts).
(3) Other consists of hedging and fair value option valuation adjustments, unamortized premiums, discounts, and commitment fees.

The outstanding carrying value of advances was $634.0 billion at December 31, 2015, an increase of $63.3 billion or 11.1%, from $570.7 billion at December 31, 2014. This increase was due to higher member demand. The percentage of members with outstanding advances was 58.7% at December 31, 2015, compared to 58.6% at December 31, 2014.

Table 12 presents cash flows related to advance originations and advance repayments. During the years ended December 31, 2015, 2014, and 2013, advance originations exceeded repayments, due primarily to growth in short-term advances.

Table 12 - Advance Originations and Repayments
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Advances originated	$ 5,425,265	$ 4,675,304	$ 3,488,649	$ 749,961	$ 1,186,655
Advances repaid	5,359,730	4,602,200	3,409,729	757,530	1,192,471
Net change	$ 65,535	$ 73,104	$ 78,920		

The FHLBanks make advances primarily to their members. Table 13 presents advances at par value by type of borrower and Table 14 presents member borrowers by type of member.

Table 13 - Advances at Par Value by Type of Borrower
(dollars in millions)

	December 31, 2015		December 31, 2014	
	Par Value	Percentage of Total Par Value of Advances	Par Value	Percentage of Total Par Value of Advances
Commercial bank members	$ 381,983	60.5%	$ 370,832	65.5%
Insurance company members	98,410	15.6%	71,820	12.7%
Thrift members	84,138	13.3%	77,086	13.6%
Credit union members	44,650	7.1%	35,397	6.3%
Community development financial institution members	115	—	111	—
Total member advances	609,296	96.5%	555,246	98.1%
Non-member borrowers	21,295	3.4%	10,083	1.8%
Housing associates	642	0.1%	343	0.1%
Total par value	$ 631,233	100.0%	$ 565,672	100.0%

Table 14 - Member Borrowers by Type of Member

	December 31, 2015		December 31, 2014	
	Number	Percentage of Total Member Borrowers	Number	Percentage of Total Member Borrowers
Commercial banks	2,978	70.1%	3,065	71.0%
Thrifts	570	13.4%	620	14.4%
Credit unions	521	12.3%	493	11.4%
Insurance companies	163	3.9%	129	3.0%
Community development financial institutions	14	0.3%	11	0.2%
Total member borrowers	4,246	100.0%	4,318	100.0%
Total members	7,238		7,367	

Table 15 presents the FHLBanks' top 10 advance holding borrowers at the holding-company level on a combined basis based on advances outstanding at par at December 31, 2015. The percentage of total advances for each holding company was computed by dividing the par value of advances by subsidiaries of that holding company by the total combined par value of advances. These percentage concentrations do not represent borrowing concentrations in an individual FHLBank.

Table 15 - Top 10 Advance Holding Borrowers by Holding Company at December 31, 2015
(dollars in millions)

Holding Company Name(1)	FHLBank Districts(2)	Par Value	Percentage of Total Par Value of Advances
JPMorgan Chase & Co.	Pittsburgh, Cincinnati, Chicago, Des Moines, San Francisco	$ 71,543	11.3%
Wells Fargo & Company	Des Moines, San Francisco	37,091	5.9%
The PNC Financial Services Group, Inc.	New York, Pittsburgh, Atlanta, Cincinnati	20,108	3.2%
Capital One Financial Corporation	Atlanta, Dallas	20,098	3.2%
Citigroup Inc.	New York, Dallas, San Francisco	17,751	2.8%
Bank of America Corporation	Boston, New York, Atlanta, Des Moines, San Francisco	15,672	2.5%
MetLife, Inc.	Boston, New York, Pittsburgh, Des Moines	15,485	2.5%
Navy Federal Credit Union	Atlanta	14,773	2.3%
Banco Santander, S.A.	Pittsburgh	13,885	2.2%
New York Community Bancorp, Inc.	New York	13,464	2.1%
		$ 239,870	38.0%

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(1) Holding company information was obtained from the Federal Reserve System's web site, the National Information Center (NIC), and SEC filings. The NIC is a central repository of data about banks and other institutions for which the Federal Reserve System has a supervisory, regulatory, or research interest, including both domestic and foreign banking organizations operating in the United States.

(2) At December 31, 2015, each holding company had subsidiaries with advance borrowings in these FHLBank districts.

Table 16 presents information on the five largest borrowers from each FHLBank at December 31, 2015. The information presented on borrowings in Table 16 is for individual FHLBank advance holding borrowers. The data is not aggregated to the holding-company level. Some of the institutions listed may be affiliates of the same holding company, and some of the institutions listed may have affiliates that are advance holding borrowers that are not listed in the table. Each FHLBank describes its risk management policies, including disclosures about its concentration risk, if any, in its periodic reports filed with the SEC. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report*.)

Table 16 - Top 5 Advance Holding Borrowers by FHLBank at December 31, 2015
(dollars in millions)

District	Name	Holding Company Name(1)	Par Value	Percentage of FHLBank Total Par Value of Advances(2)
Boston	Citizens Bank, N.A.		$ 6,015	16.7%
	People's United Bank, N.A.		3,205	8.9%
	Webster Bank, National Association		2,664	7.4%
	Berkshire Bank		1,174	3.3%
	Massachusetts Mutual Life Insurance Company		1,100	3.1%
			$ 14,158	39.4%
New York	Citibank, N.A.	Citigroup Inc.	$ 14,750	15.8%
	New York Community Bank	New York Community Bancorp, Inc.	12,700	13.6%
	Metropolitan Life Insurance Company	MetLife, Inc.	12,570	13.4%
	HSBC Bank USA, National Association		5,600	6.0%
	First Niagara Bank, National Association		5,525	5.9%
			$ 51,145	54.7%
Pittsburgh	PNC Bank, National Association(3)	The PNC Financial Services Group, Inc.	$ 19,920	26.7%
	Santander Bank, National Association(3)	Banco Santander, S.A.	13,885	18.7%
	Chase Bank USA, N.A.	JPMorgan Chase & Co.	10,300	13.9%
	Ally Bank		9,370	12.6%
	Customers Bank		1,625	2.2%
			$ 55,100	74.1%
Atlanta	Capital One, National Association	Capital One Financial Corporation	$ 20,095	19.5%
	Navy Federal Credit Union	Navy Federal Credit Union	14,773	14.4%
	Bank of America, National Association	Bank of America Corporation	13,262	12.9%
	Branch Banking and Trust Company		6,464	6.3%
	EverBank		5,877	5.7%
			$ 60,471	58.8%
Cincinnati	JPMorgan Chase Bank, National Association	JPMorgan Chase & Co.	$ 35,350	48.3%
	U.S. Bank, N. A.		10,086	13.7%
	Capstead Insurance, LLC		2,875	3.9%
	Nationwide Life Insurance Company(3)		2,279	3.1%
	Third Federal Savings and Loan Association		2,162	3.0%
			$ 52,752	72.0%
Indianapolis	Flagstar Bank, FSB		$ 3,541	13.2%
	Lincoln National Life Insurance Company		2,605	9.7%
	Jackson National Life Insurance Company		1,970	7.4%
	Tuebor Captive Insurance Company, LLC		1,857	6.9%
	IAS Services, LLC		1,650	6.2%
			$ 11,623	43.4%

District	Name	Holding Company Name(1)	Par Value	Percentage of FHLBank Total Par Value of Advances(2)
Chicago	One Mortgage Partners Corp.	JPMorgan Chase & Co.	$ 11,000	30.1%
	The Northern Trust Company		4,000	10.9%
	State Farm Bank, F.S.B.		2,650	7.2%
	BMO Harris Bank, National Association		2,375	6.5%
	Associated Bank, National Association		2,085	5.7%
			$ 22,110	60.4%
Des Moines	Wells Fargo Bank, National Association	Wells Fargo & Company	$ 37,000	41.6%
	TH Insurance Holdings Company LLC		3,785	4.3%
	Old Georgetown Insurance Company, LLC		3,753	4.2%
	HICA Education Loan Corporation		3,600	4.0%
	Transamerica Life Insurance Company		2,350	2.6%
			$ 50,488	56.7%
Dallas	Texas Capital Bank, National Association		$ 1,500	6.1%
	LegacyTexas Bank		1,440	5.8%
	Centennial Bank		1,400	5.7%
	Southside Bank(3)		1,148	4.7%
	Security Service Federal Credit Union		963	3.9%
			$ 6,451	26.2%
Topeka	BOKF, National Association		$ 4,800	20.5%
	MidFirst Bank		3,779	16.1%
	Capitol Federal Savings Bank		2,475	10.5%
	Security Benefit Life Insurance Company		1,081	4.6%
	United of Omaha Life Insurance Company		736	3.1%
			$ 12,871	54.8%
San Francisco	JPMorgan Chase Bank, National Association(4)	JPMorgan Chase & Co.	$ 14,813	29.1%
	Bank of the West		6,791	13.4%
	First Republic Bank		4,000	7.9%
	CIT Bank, N.A.		3,113	6.1%
	Citibank, N.A.(4)	Citigroup Inc.	3,000	5.9%
			$ 31,717	62.4%

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(1) The holding company name is only shown for each Top 5 advance holding borrower that has its holding company listed in Table 15 - Top 10 Advance Holding Borrowers by Holding Company at December 31, 2015.
(2) For consistency with the individual FHLBank's presentation of its Top 5 advance holders at December 31, 2015, amounts used to calculate percentages of FHLBank advances may be based on numbers in thousands. Accordingly, recalculations using the amounts in millions as presented in Table 16 may not produce the same results.
(3) Indicates that an officer or director of the member was an FHLBank director at December 31, 2015.
(4) Non-member advance holding borrower that is holding legacy advances due to out-of-district acquisition or merger.

Investments

The FHLBanks maintain investment portfolios for liquidity purposes and to generate additional earnings. This investment income bolsters the FHLBanks' capacity to meet their commitments to affordable housing and community investment. Within the investment portfolio, the FHLBanks invest in investment quality securities to reduce their credit risk. Total investments were $273.7 billion at December 31, 2015, an increase of $3.5 billion or 1.3% from $270.2 billion at December 31, 2014, driven by an increase in securities purchased under agreements to resell, partially offset by decreases in federal funds sold and investment securities. FHFA regulations prohibit the FHLBanks from investing in certain types of securities and limit the FHLBanks' investment in mortgage-backed securities (MBS) and asset-backed securities (ABS). (See *Financial Discussion and Analysis - Risk Management - Credit Risk - Investments* for additional information.)

The FHLBanks maintain short-term investment portfolios, which may provide funds to meet the credit needs of their members and to maintain liquidity. These portfolios may include:

- interest-bearing deposits;
- securities purchased under agreements to resell;
- federal funds sold;
- U.S. Treasury obligations;
- commercial paper;
- certificates of deposit; and
- GSE obligations.

The yield earned on these short-term investments is tied directly to short-term market interest rates. At December 31, 2015, the FHLBanks continued to maintain significant short-term investment balances as part of their ongoing strategy and to satisfy liquidity needs. (See *Liquidity and Capital Resources* for further discussion related to liquidity management.)

The FHLBanks maintain long-term investment portfolios primarily to provide additional liquidity and to earn interest income. These investments generally provide the FHLBanks with higher returns than those available on short-term investments.

Table 17 presents the composition of investments and investment securities at December 31, 2015, 2014, and 2013. For disclosures related to an individual FHLBank investment holdings that exceed 10% of its respective total capital, see that FHLBank's 2015 SEC Form 10-K.

Table 17 - Total Investments
(dollars in millions)

	December 31,						
	2015					2014	2013
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years	Carrying Value	Carrying Value	Carrying Value
Interest-bearing deposits	$ 1,835	$ 1	$ —	$ —	$ 1,836	$ 1,569	$ 1,007
Securities purchased under agreements to resell	47,827	—	—	—	47,827	25,419	20,350
Federal funds sold	42,380	—	—	—	42,380	52,773	29,500
Trading Securities							
Trading non-mortgage-backed securities							
U.S. Treasury obligations	1,108	100	102	—	1,310	526	2,847
Certificates of deposit	—	—	—	—	—	—	260
Other U.S. obligations	—	—	126	111	237	256	267
GSE and Tennessee Valley Authority obligations	3,348	3,069	618	181	7,216	7,601	7,072
State or local housing agency obligations	—	1	—	—	1	1	1
Other	14	39	129	108	290	294	276
Total trading non-mortgage-backed securities	4,470	3,209	975	400	9,054	8,678	10,723
Trading mortgage-backed securities							
Other U.S. obligations single-family MBS	—	—	17	7	24	28	33
GSE single-family MBS	—	2	—	157	159	201	248
GSE multifamily MBS	—	219	1,057	247	1,523	693	662
Total trading mortgage-backed securities	—	221	1,074	411	1,706	922	943
Total trading securities	4,470	3,430	2,049	811	10,760	9,600	11,666

	December 31,						
	2015					2014	2013
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years	Carrying Value	Carrying Value	Carrying Value
Available-for-Sale Securities							
Available-for-sale non-mortgage-backed securities							
Certificates of deposit	700	—	—	—	700	1,350	2,185
Other U.S. obligations	—	229	4,050	550	4,829	4,995	4,160
GSE and Tennessee Valley Authority obligations	1,350	7,924	3,866	1,723	14,863	15,093	14,465
State or local housing agency obligations	14	114	299	772	1,199	139	37
Federal Family Education Loan Program ABS	—	7	8	5,284	5,299	6,221	6,804
Other	83	279	347	415	1,124	1,063	1,127
Total available-for-sale non-mortgage-backed securities	2,147	8,553	8,570	8,744	28,014	28,861	28,778
Available-for-sale mortgage-backed securities							
Other U.S. obligations single-family MBS	—	40	—	4,547	4,587	4,889	3,388
Other U.S. obligations multifamily MBS	—	—	—	744	744	871	309
GSE single-family MBS	—	—	112	9,474	9,586	9,714	7,864
GSE multifamily MBS	241	10,271	11,674	2,507	24,693	19,625	16,361
Private-label residential MBS	—	2	3	8,277	8,282	11,036	12,290
Home equity loan ABS	—	—	—	10	10	12	15
Total available-for-sale mortgage-backed securities	241	10,313	11,789	25,559	47,902	46,147	40,227
Total available-for-sale securities	2,388	18,866	20,359	34,303	75,916	75,008	69,005
Held-to-Maturity Securities							
Held-to-maturity non-mortgage-backed securities							
Certificates of deposit	—	—	—	—	—	356	1,926
Other U.S. obligations	698	201	221	837	1,957	2,271	2,319
GSE and Tennessee Valley Authority obligations	782	5,043	271	130	6,226	7,280	4,425
State or local housing agency obligations	19	265	335	2,091	2,710	3,830	3,525
Other	—	—	—	—	—	—	1
Total held-to-maturity non-mortgage-backed securities	1,499	5,509	827	3,058	10,893	13,737	12,196
Held-to-maturity mortgage-backed securities							
Other U.S. obligations single-family MBS	—	1,249	8	8,966	10,223	9,401	10,017
Other U.S. obligations multifamily MBS	—	3	2	18	23	117	215
GSE single-family MBS	—	772	1,268	46,218	48,258	58,499	65,570
GSE multifamily MBS	141	6,986	11,709	1,115	19,951	16,755	14,388
Private-label residential MBS	—	114	15	5,203	5,332	7,004	8,549
Manufactured housing loan ABS	—	—	—	86	86	105	125
Home equity loan ABS	—	—	—	199	199	230	275
Total held-to-maturity mortgage-backed securities	141	9,124	13,002	61,805	84,072	92,111	99,139
Total held-to-maturity securities	1,640	14,633	13,829	64,863	94,965	105,848	111,335
Total investment securities	8,498	36,929	36,237	99,977	181,641	190,456	192,006
Total investments	$ 100,540	$ 36,930	$ 36,237	$ 99,977	$ 273,684	$ 270,217	$ 242,863

	December 31,						
	2015					2014	2013
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years	Carrying Value	Carrying Value	Carrying Value
Interest-bearing deposits	$ 1,835	$ 1	$ —	$ —	$ 1,836	$ 1,569	$ 1,007
Securities purchased under agreements to resell	47,827	—	—	—	47,827	25,419	20,350
Federal funds sold	42,380	—	—	—	42,380	52,773	29,500
Total Investment Securities by Major Security Type							
Investment securities non-mortgage-backed securities							
U.S. Treasury obligations	1,108	100	102	—	1,310	526	2,847
Certificates of deposit	700	—	—	—	700	1,706	4,371
Other U.S. obligations	698	430	4,397	1,498	7,023	7,522	6,746
GSE and Tennessee Valley Authority obligations	5,480	16,036	4,755	2,034	28,305	29,974	25,962
State or local housing agency obligations	33	380	634	2,863	3,910	3,970	3,563
Federal Family Education Loan Program ABS	—	7	8	5,284	5,299	6,221	6,804
Other	97	318	476	523	1,414	1,357	1,404
Total investment securities non-mortgage-backed securities	8,116	17,271	10,372	12,202	47,961	51,276	51,697
Investment securities mortgage-backed securities							
Other U.S. obligations single-family MBS	—	1,289	25	13,520	14,834	14,318	13,438
Other U.S. obligations multifamily MBS	—	3	2	762	767	988	524
GSE single-family MBS	—	774	1,380	55,849	58,003	68,414	73,682
GSE multifamily MBS	382	17,476	24,440	3,869	46,167	37,073	31,411
Private-label residential MBS	—	116	18	13,480	13,614	18,040	20,839
Manufactured housing loan ABS	—	—	—	86	86	105	125
Home equity loan ABS	—	—	—	209	209	242	290
Total investment securities mortgage-backed securities	382	19,658	25,865	87,775	133,680	139,180	140,309
Total investment securities	8,498	36,929	36,237	99,977	181,641	190,456	192,006
Total investments	$ 100,540	$ 36,930	$ 36,237	$ 99,977	$ 273,684	$ 270,217	$ 242,863
Yield on trading securities	2.01%	1.00%	2.72%	3.56%			
Yield on available-for-sale securities	2.12%	3.26%	2.07%	3.18%			
Yield on held-to-maturity securities	0.78%	1.91%	1.72%	1.96%			
Yield on total investment securities	1.81%	2.52%	1.97%	2.39%			

The FHLBanks classify investment securities as held-to-maturity (HTM), available-for-sale (AFS), or trading securities. The interest-rate and prepayment risks associated with these investment securities are managed through a combination of debt issuance and derivatives. An FHLBank may manage the prepayment and interest-rate risks by funding investment securities with consolidated obligations that have call features or by hedging the prepayment risk with caps or floors, callable swaps or swaptions. An FHLBank may manage prepayment and duration risk by funding investment securities with consolidated obligations that contain call features. An FHLBank may also manage the risk arising from changing market prices and volatility of investment securities by matching the cash outflow on the derivatives with the cash inflow on the investment securities. Derivatives held by an FHLBank that are associated with trading and held-to-maturity securities are designated as economic hedges, and derivatives held by an FHLBank associated with available-for-sale securities may qualify as either a fair value hedge, economic hedge, or a cash flow hedge. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements and *Quantitative and Qualitative Disclosure About Market Risk - Use of Derivatives to Manage Interest-Rate Risk* for additional information.)

Table 18 presents the interest-rate payment terms of investment securities at December 31, 2015 and 2014.

Table 18 - Interest-Rate Payment Terms of Investment Securities
(dollars in millions)

	December 31, 2015	December 31, 2014
Trading Securities at Fair Value		
Trading non-mortgage-backed securities		
Fixed-rate	$ 4,554	$ 3,419
Variable-rate	4,500	5,259
Total trading non-mortgage-backed securities	9,054	8,678
Trading mortgage-backed securities		
Fixed-rate	1,525	694
Variable-rate	181	228
Total trading mortgage-backed securities	1,706	922
Total trading securities	$ 10,760	$ 9,600
Available-for-Sale Securities at Amortized Cost		
Available-for-sale non-mortgage-backed securities		
Fixed-rate	$ 19,462	$ 19,559
Variable-rate	8,446	8,850
Total available-for-sale non-mortgage-backed securities	27,908	28,409
Available-for-sale mortgage-backed securities		
Fixed-rate	26,830	25,688
Variable-rate	20,571	19,359
Total available-for-sale mortgage-backed securities	47,401	45,047
Total available-for-sale securities	$ 75,309	$ 73,456
Held-to-Maturity Securities at Amortized Cost		
Held-to-maturity non-mortgage-backed securities		
Fixed-rate	$ 4,425	$ 5,672
Variable-rate	6,468	8,065
Total held-to-maturity non-mortgage-backed securities	10,893	13,737
Held-to-maturity mortgage-backed securities		
Fixed-rate	37,952	41,708
Variable-rate	46,647	51,058
Total held-to-maturity mortgage-backed securities	84,599	92,766
Total held-to-maturity securities	$ 95,492	$ 106,503

Net Unrealized Gains (Losses) on AFS and HTM Investment Securities. The FHLBanks held AFS and HTM securities in net unrealized gain(loss) positions. These net unrealized gains(losses) are due primarily to interest rate volatility and/or illiquidity. For those investment securities in loss positions, these losses are considered temporary, as each FHLBank expects to recover the entire amortized cost basis on these investment securities 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.

Net unrealized gains, including the net effect of non-credit related other-than-temporary impairment (OTTI) recognized in accumulated other comprehensive income (loss) (AOCI), on AFS securities were $607 million at December 31, 2015, a decrease of $945 million from December 31, 2014. This decrease was due primarily to lower net unrealized gains on non-MBS GSE obligations, GSE multifamily MBS, and Federal Family Education Loan Program ABS, partially offset by the recognition of an OTTI charge into earnings related to certain private-label residential MBS that the FHLBank of Seattle intended to sell and subsequently sold. (See *Note 6 - Available-for-Sale Securities* to the accompanying combined financial statements for additional information regarding AFS securities.)

Net unrealized gains, including the net effect of non-credit-related OTTI recognized in AOCI, on HTM securities were $631 million, a decrease of $705 million from December 31, 2014. This decrease was due primarily to lower net unrealized gains on GSE single-family MBS and GSE multifamily MBS, partially offset by the accretion of non-credit portion of OTTI losses, recorded in AOCI, on certain private-label residential MBS that had experienced non-credit related OTTI in previous periods. (See *Note 7 - Held-to-Maturity Securities* to the accompanying combined financial statements for additional information regarding HTM securities).

OTTI on Investment Securities. Each FHLBank evaluates its individual AFS and HTM investment securities holdings for OTTI on a quarterly basis. Private-label residential MBS, private-label commercial MBS, manufactured housing loan asset-backed securities (ABS), and home equity loan ABS (collectively referred to as private-label mortgage-backed securities) are those investment securities that generally carry the greatest risk of loss. (See *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements, *Critical Accounting Estimates - OTTI for Investment Securities*, and *Risk Management - Credit Risk - Investments* for additional information.)

Mortgage-Backed Securities to Total Regulatory Capital Limit. Current regulatory policy prohibits an FHLBank from purchasing MBS if its investment in MBS exceeds 300% of that FHLBank's previous month-end regulatory capital on the day it intends to purchase the securities. At December 31, 2015, each of the FHLBanks of Chicago, Des Moines, and Topeka was precluded from purchasing additional MBS investments until its respective MBS to total regulatory capital percentage declines below 300%. Each of these FHLBanks was not required to sell any previously purchased MBS. Each of the FHLBanks was in compliance with the regulatory limit at the time of its respective MBS purchases, except for the FHLBank of Indianapolis, which was not in compliance at the trade date of an MBS purchase, but was in compliance at the date of settlement. On a combined basis, at December 31, 2015, the FHLBanks' percentage of MBS (net of regulatory excluded MBS) was 270% of total combined regulatory capital.

In addition to this limitation, the FHLBank of Chicago is required to obtain FHFA approval for any new investments that have a term to maturity in excess of 270 days, until such time as the FHLBank of Chicago's MBS portfolio is less than three times its total regulatory capital and its advances represent more than 50% of its total assets.

Mortgage Loans Held for Portfolio, Net

An FHLBank may purchase mortgage loans to support the FHLBank's housing mission, diversify its investments, and provide an additional source of liquidity to FHLBank members. The two primary programs are the Mortgage Purchase Program (MPP) and the Mortgage Partnership Finance® (MPF) Program. (See *Business - Mortgage Loans* and *Risk Management - Credit Risk - Mortgage Loans Held for Portfolio* for more information.)

Table 19 - Mortgage Loans Held for Portfolio, Net
(dollars in millions)

	December 31, 2015	December 31, 2014	Change
Mortgage loans held for portfolio	$ 44,603	$ 43,615	$ 988
Allowance for credit losses on mortgage loans	(18)	(52)	34
Total mortgage loans held for portfolio, net	$ 44,585	$ 43,563	$ 1,022

Mortgage Loans Held for Portfolio. Mortgage loans were $44.6 billion at December 31, 2015, an increase of 2.3% from $43.6 billion at December 31, 2014, due to increased member use of MPP products, resulting from ongoing improvements in the housing market and low mortgage rates.

As of December 31, 2015, the FHLBank of Atlanta was not accepting additional master commitments to acquire loans for its own portfolio or purchasing additional mortgage loans under either the MPP or MPF Program. The FHLBank of Des Moines was not accepting additional master commitments to purchase mortgage loans under the MPP at December 31, 2015 and expects the balance of existing loans, acquired through the merger with the FHLBank of Seattle, to decrease as they are paid off. The FHLBank of Dallas had a master commitment to purchase mortgage loans under the MPF Program at December 31, 2015, and resumed acquiring mortgage loans under the MPF program in the first quarter of 2016. The remaining FHLBanks participating in the MPP and MPF Program continue to have the ability to purchase both conventional and government-guaranteed or -insured fixed-rate mortgage loans.

Allowance for Credit Losses on Mortgage Loans. Table 20 presents the characteristics and credit losses of mortgage loans held for portfolio. Periodically, each FHLBank evaluates the allowance for credit losses for its mortgage loans based on its policies and procedures to determine if an allowance for credit losses is necessary. The allowance for credit losses on mortgage loans was $18 million at December 31, 2015, a decrease of $34 million or 65.4% from $52 million at December 31, 2014, due substantially to net charge-offs during 2015. The increase in net charge-offs was, in part, due to the adoption of FHFA Advisory Bulletin 2012-02. (See Note 1 - Summary of Significant Accounting Policies - *Allowance for Credit Losses* to the accompanying combined financial statements for additional information.)

Table 20 - Mortgage Loans Held for Portfolio - Characteristics and Credit Losses
(dollars in millions)

	December 31,				
Unpaid Principal Balance	**2015**	**2014**	**2013**	**2012**	**2011**
Total past due 90 days or more and still accruing interest	$ 138	$ 228	$ 410	$ 559	$ 729
Non-accrual loans	$ 335	$ 438	$ 552	$ 650	$ 674
Troubled debt restructurings (not included above)(1)	$ 117	$ 114	$ 78	$ 61	$ 21

	Year Ended December 31,				
	2015	**2014**	**2013**	**2012**	**2011**
Allowance for credit losses, beginning of period	$ 52	$ 88	$ 132	$ 138	$ 86
Charge-offs and recoveries	(38)	(15)	(25)	(27)	(20)
Provision (reversal) for credit losses	4	(21)	(19)	21	72
Allowance for credit losses, end of period	$ 18	$ 52	$ 88	$ 132	$ 138

(1) Represents troubled debt restructured loans that are still performing as of the period-end presented.

Table 21 - Interest Shortfall on Nonaccrual Loans and Loans Modified in Troubled Debt Restructurings
(dollars in millions)

	Year Ended December 31,				
	2015	**2014**	**2013**	**2012**	**2011**
Gross amount of interest that would have been recorded based on original terms	$ 20	$ 23	$ 26	$ 30	$ 30
Interest actually recognized in income during the period	5	6	4	12	11
Shortfall	$ 15	$ 17	$ 22	$ 18	$ 19

See Note 11 - Allowance for Credit Losses to the accompanying combined financial statements for more information.

Consolidated Obligations

Consolidated obligations consist of consolidated bonds and consolidated discount notes, which are debt instruments issued through the Office of Finance. Consolidated obligations are the principal funding source used by the FHLBanks to make advances and to purchase mortgage loans and investments. The carrying value of consolidated obligations was $906.0 billion at December 31, 2015, an increase of $57.6 billion or 6.8% from $848.3 billion at December 31, 2014, primarily consisting of an increase in discount notes, driven by funding needs related to the growth in advances.

Consolidated bonds are issued primarily to raise intermediate- and long-term funds. Consolidated bonds generally carry fixed- or variable-rate payment terms and have maturities ranging from one month to 30 years. The carrying value of consolidated bonds was $411.9 billion at December 31, 2015, a decrease of $74.1 billion or 15.2% from $486.0 billion at December 31, 2014. Consolidated bonds represented 45.5% and 57.3% of total consolidated obligations outstanding at December 31, 2015 and 2014.

Consolidated discount notes are issued primarily to provide short-term funding. These consolidated discount notes have a maturity range of one day to one year, are generally issued at or below par, and mature at par. A significant portion of consolidated discount note activity typically results from the refinancing of overnight discount notes. The carrying value of consolidated discount notes was $494.1 billion at December 31, 2015, an increase of $131.8 billion or 36.4% from $362.3 billion at December 31, 2014. Consolidated discount notes represented 54.5% and 42.7% of total consolidated obligations outstanding at December 31, 2015 and 2014.

Table 22 - Consolidated Obligations Outstanding
(dollars in millions)

	December 31, 2015	December 31, 2014	Change
Par value of consolidated obligations due in 1 year or less			
Consolidated discount notes	$ 494,343	$ 362,363	$ 131,980
Consolidated bonds	192,642	220,231	(27,589)
Total	686,985	582,594	104,391
Par value of long-term consolidated bonds(1)	217,939	264,290	(46,351)
Total par value	904,924	846,884	58,040
Other(2)	1,058	1,450	(392)
Total consolidated obligations	$ 905,982	$ 848,334	$ 57,648

(1) Includes $158 million and $516 million of index-amortizing notes as of December 31, 2015 and 2014.
(2) Consists of hedging and fair value option valuation adjustments, and unamortized premiums and discounts.

Table 23 presents cash flows related to consolidated obligations, which illustrates proceeds exceeding payments for the years ended December 31, 2015, 2014, and 2013, resulting in higher consolidated obligation balances, due primarily to consolidated discount note issuance related to the growth of short-term advances. Despite the increase in consolidated discount notes outstanding at December 31, 2015, the volume of proceeds and payments for consolidated discount notes decreased for the year ended December 31, 2015, compared to the same period in 2014, due to declines in the use of overnight consolidated discount notes. However, the volume of proceeds and payments for consolidated discount notes were higher for the year ended December 31, 2014, compared to the same period in 2013.

Table 23 - Net Proceeds and Payments for Consolidated Obligations
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs 2014	2014 vs 2013
Net proceeds from issuance of consolidated obligations					
Discount notes	$ 3,553,414	$ 3,969,949	$ 3,099,326	$ (416,535)	$ 870,623
Bonds	304,426	348,749	341,475	(44,323)	7,274
Net proceeds	3,857,840	4,318,698	3,440,801	$ (460,858)	$ 877,897
Payments for maturing and retiring consolidated obligations					
Discount notes	3,421,830	3,900,963	3,022,323	$ (479,133)	$ 878,640
Bonds	378,287	337,198	339,380	41,089	(2,182)
Net payments	3,800,117	4,238,161	3,361,703	$ (438,044)	$ 876,458
Net change	$ 57,723	$ 80,537	$ 79,098		

Table 24 presents short-term consolidated obligations outstanding for the years ended December 31, 2015, 2014, and 2013. The daily average balance outstanding for consolidated discount notes increased during the year ended December 31, 2015, compared to its daily average balance for the years ended December 31, 2014 and 2013, due to increased short-term funding needs resulting from market conditions and short-term advance demand that favored the issuance of shorter-term debt. The daily average balance of consolidated bonds with original maturities of one year or less decreased during the year ended December 31, 2015, compared to the year ended December 31, 2014, due to decreased issuance of consolidated bonds resulting from market conditions and advance growth that favored consolidated discount note funding.

Table 24 - Short-Term Consolidated Obligations Outstanding
(dollars in millions)

	Consolidated Discount Notes(1)			Consolidated Bonds With Original Maturities of One Year or Less(2)		
	2015	2014	2013	2015	2014	2013
Outstanding at end of the period	$ 494,055	$ 362,303	$ 293,296	$ 99,151	$ 108,450	$ 136,270
Weighted-average interest rate at end of the period	0.26%	0.09%	0.09%	0.28%	0.12%	0.12%
Daily average outstanding for the period	$ 394,332	$ 309,815	$ 220,478	$ 93,544	$ 127,517	$ 116,161
Weighted-average interest rate for the period	0.21%	0.17%	0.23%	0.19%	0.13%	0.14%
Highest outstanding at any month-end	$ 494,055	$ 362,303	$ 293,296	$ 101,978	$ 140,268	$ 136,270

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(1) Values are derived using the carrying value of the consolidated discount notes.
(2) Values are derived using the par value of the consolidated bonds.

Consolidated Bonds. Consolidated bonds often have investor-determined features. The decision to issue a consolidated bond using a particular structure is based on the desired amount of funding and the ability of the FHLBank(s) receiving the proceeds of the consolidated bonds issued to hedge the risks. This strategy of issuing consolidated obligations while simultaneously entering into derivative transactions enables an FHLBank to offer a wider range of attractively priced advances to its members and may allow an FHLBank to reduce its funding costs. The continued attractiveness of this strategy depends on yield relationships between the FHLBanks' consolidated obligations and the derivatives markets. If conditions change, an FHLBank may alter the types or terms of the consolidated obligations that it issues. The increase in funding alternatives available to the FHLBanks through negotiated debt/swap transactions is beneficial to the FHLBanks because it may diversify the investor base, reduce funding costs, and/or provide additional asset/liability management tools.

Table 25 - Par Value of Consolidated Bonds Outstanding by Payment Terms
(dollars in millions)

	December 31, 2015		December 31, 2014	
	Par Value(1)	Percentage of Total	Par Value(1)	Percentage of Total
Fixed-rate, noncallable	$ 235,527	57.3%	$ 271,239	55.9%
Single-index, non-capped variable-rate	95,122	23.2%	63,001	13.0%
Fixed-rate, callable	59,636	14.6%	109,345	22.7%
Step-up/step-down	16,991	4.1%	37,040	7.6%
Index-amortizing notes	158	—	516	0.1%
Other(2)	3,425	0.8%	3,670	0.7%
Total	$ 410,859	100.0%	$ 484,811	100.0%

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(1) Consolidated bonds outstanding have not been adjusted for interbank holdings totaling $278 million at December 31, 2015, and $290 million at December 31, 2014.
(2) Primarily consists of capped variable-rate and conversion consolidated bonds.

The types of consolidated bonds issued can fluctuate based on comparative changes in their cost levels, supply and demand conditions, advance demand, and the FHLBanks' individual balance sheet management strategies. Table 26 presents the bond types the FHLBanks relied on for their bond funding needs.

Table 26 - Percentage of Total Consolidated Bonds Issued by Bond Type

	Year Ended December 31,		
	2015	2014	2013
Fixed-rate, fixed-term, noncallable	46.0%	51.4%	49.2%
Single-index, variable-rate	29.2%	15.6%	18.9%
Fixed-rate, callable	18.1%	24.7%	24.8%
Step-up/step-down(1)	5.9%	7.6%	6.9%
Other	0.8%	0.7%	0.2%
Total	100.0%	100.0%	100.0%

(1) Primarily consists of callable step-up bonds.

The FHLBanks may use callable swaps to hedge against the interest-rate risk associated with the callable bonds. The hedged callable bond is generally called if the call feature of the derivative is exercised. These call features could result in the need for FHLBanks to refinance a substantial portion of outstanding liabilities during times of decreasing interest rates. Call options on unhedged callable bonds generally are exercised when the bond can be replaced at a lower cost. Callable bonds enable an FHLBank to meet its funding needs at costs not otherwise directly attainable solely through the issuance of non-callable debt.

Consolidated Discount Notes. Consolidated discount notes are issued primarily to provide short-term funds. The issuance of such consolidated discount notes is intended to fund, for example:

- advances with short-term maturities or repricing intervals;
- convertible advances or callable/putable advance programs;
- variable-rate advance programs; or
- money-market investments.

Debt Financing Activity. The FHLBanks have diversified sources and channels of funding based on the need for funding from the capital markets. Consolidated bonds can be negotiated individually or auctioned competitively through approved underwriters. The FHLBanks issue large, liquid bullet bonds through the Global Debt Program (mandated global bullets) to expand their pool of investors, while diversifying their funding sources. Mandated global bullets are issued through a formal dealer syndicate following pre-announced calendar issuance dates. For other negotiated bond transactions, underwriters contact the Office of Finance or the FHLBanks directly if there is a bond structure they need to meet investor demand. These transactions are flexible and can be investor-customized with different interest-rate characteristics, terms, and currencies (for bonds issued under the Global Debt Program). Competitively-bid transactions are generally initiated when an FHLBank needs funds of a particular structure and size. Consolidated bonds can be offered daily through auction and include fixed-rate, noncallables (through the TAP Issue Program), American-style callables, and mandated global reopenings.

Table 27 - Percentage of Total Consolidated Bonds Issued by Transaction Type

	Year Ended December 31,		
	2015	2014	2013
Negotiated transactions	90.8%	87.2%	87.8%
Competitive bid	9.2%	12.8%	12.2%
Total	100.0%	100.0%	100.0%

Deposits

The FHLBanks offer demand and overnight deposit programs to members and qualifying non-members. In addition, certain FHLBanks offer short-term interest-bearing deposit programs to members, and in certain cases, qualifying non-members. At December 31, 2015, deposits totaled $8.5 billion, a decrease of $0.5 billion or 5.9% from December 31, 2014. These deposits represent a relatively small portion of the FHLBanks' funding. Deposits vary depending on market factors, such as the attractiveness of the FHLBanks' deposit pricing relative to the rates available on alternative money market instruments, FHLBank members' investment preferences with respect to the maturity of their investments, and FHLBank members' liquidity. Interest-bearing demand and overnight deposits represented 89.5% and 80.6% of deposits at December 31, 2015 and 2014, with the remaining deposits primarily being term deposits and non-interest bearing deposits.

Table 28 presents term deposits issued in amounts of $100 thousand or more at December 31, 2015 and 2014.

Table 28 - Term Deposits Issued in Amounts of $100 Thousand or More
(dollars in millions)

	December 31, 2015	December 31, 2014
3 months or less	$ 274	$ 178
Over 3 months through 6 months	183	150
Over 6 months through 12 months	23	44
Over 12 months	9	31
Total	$ 489	$ 403

Capital

Table 29 - Total Capital and Capital-to-Assets Ratios
(dollars in millions)

	December 31, 2015	December 31, 2014	Change
Capital stock	$ 34,185	$ 33,705	$ 480
Additional capital from merger	194	—	194
Retained earnings	14,325	13,244	1,081
AOCI	(634)	54	(688)
Total GAAP capital	48,070	47,003	1,067
Exclude: AOCI	634	(54)	688
Add: Mandatorily redeemable capital stock	745	2,631	(1,886)
Other(1)	—	(3)	3
Total combined regulatory capital(2)	$ 49,449	$ 49,577	$ (128)
Total assets	$ 969,353	$ 913,343	$ 56,010
Combined GAAP capital-to-assets ratio	4.96%	5.15%	
Combined regulatory capital-to-assets ratio(3)	5.10%	5.43%	

(1) Represents rounding adjustments.
(2) Regulatory capital requirements apply to individual FHLBanks, and the combined amounts are for analysis only. The sum of the individual FHLBank regulatory capital amounts does not agree to the total combined regulatory capital due to combining adjustments.
(3) The combined regulatory capital-to-assets ratio is calculated based on the FHLBanks' combined regulatory capital as a percentage of combined total assets. (See *Note 17 - Capital* to the accompanying combined financial statements for a definition and discussion of regulatory capital.)

GAAP Capital. Total GAAP capital was $48.1 billion at December 31, 2015, an increase of 2.3% from $47.0 billion at December 31, 2014. This increase was due primarily to growth in retained earnings and an increase in capital stock outstanding. These increases were partially offset by a decline in accumulated other comprehensive income (loss) driven by a decrease in the fair value of investment securities classified as available-for-sale. The combined GAAP capital-to-assets ratio was 4.96% at December 31, 2015, a decrease of 19 basis points from 5.15% at December 31, 2014.

Capital Stock. Capital stock increased 1.4% due to net capital stock issuances of $1.4 billion, partially offset by $1.0 billion of net shares reclassified to mandatorily redeemable capital stock.

Additional Capital from Merger. Additional capital from merger of $194 million at December 31, 2015, primarily represents the amount of the FHLBank of Seattle's closing retained earnings balance as of the merger date, adjusted for fair value and other purchase accounting adjustments, and identified intangible assets, and is net of $52 million in dividends paid by the FHLBank of Des Moines subsequent to the merger date. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* and *Note 17 - Capital* to the accompanying combined financial statements for additional information.)

Retained Earnings. Retained earnings grew 8.2% due to net income of $2,856 million, offset by dividends of $1,462 million. Unrestricted retained earnings were $10.5 billion at December 31, 2015, an increase of 7.6% from $9.7 billion at December 31, 2014. Restricted retained earnings were $3.9 billion at December 31, 2015, an increase of 9.8% from $3.5 billion at December 31, 2014.

Accumulated Other Comprehensive Income (Loss). The decline in AOCI of $688 million resulted primarily from a net fair value decrease of $862 million on AFS securities, partially offset by $123 million of net unrealized gains relating to hedging activities and $114 million of accretion of non-credit portion on HTM securities. (See *Combined Results of Operations - Comprehensive Income* for more information.)

Regulatory Capital. Total combined regulatory capital was $49.4 billion at December 31, 2015, a decrease of 0.3% from $49.6 billion at December 31, 2014. This decrease is the result of a decline in regulatory stock outstanding, which consists of capital stock and mandatorily redeemable capital stock, partially offset by growth in retained earnings.

Mandatorily Redeemable Capital Stock. Mandatorily redeemable capital stock decreased 71.7% due to $2.9 billion of repurchases and redemptions in connection with the merger, as well as additional repurchases and redemptions by certain other FHLBanks, partially offset by $1.0 billion of net shares reclassified from capital stock.

Table 30 - GAAP Capital Components as a Percentage of Total Capital

	December 31, 2015	December 31, 2014
Capital stock	71.1 %	71.7%
Additional capital from merger	0.4 %	—
Retained earnings	29.8 %	28.2%
AOCI	(1.3)%	0.1%
Total GAAP capital	100.0 %	100.0%

Combined Results of Operations

Net Income

Net income for the year ended December 31, 2015, was $2,856 million, an increase of 27.2% compared to the same period in 2014. This increase was due primarily to higher gains on litigation settlements, as well as net gains on derivatives and hedging activities. Net income for the year ended December 31, 2014, was $2,245 million, a decrease of 10.6% compared to the same period in 2013. This decrease resulted primarily from net losses on derivatives and hedging activities, partially offset by lower net losses on trading securities.

Table 31 - Changes in Net Income
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Net interest income after provision (reversal) for credit losses	$ 3,544	$ 3,543	$ 3,419	$ 1	$ 124
Non-interest income	843	17	329	826	(312)
Non-interest expense	1,199	1,046	943	153	103
Affordable Housing Program assessments	332	269	293	63	(24)
Net income	$ 2,856	$ 2,245	$ 2,512	$ 611	$ (267)

Net Interest Income after Provision (Reversal) for Credit Losses

The primary source of each FHLBank's earnings is net interest income, which is the interest income on advances, mortgage loans, and investments, less the interest expense on consolidated obligations and other borrowings. Net interest income after provision (reversal) for credit losses for the year ended December 31, 2015, was $3,544 million, an increase of $1 million compared to the same period in 2014. Net interest margin for the year ended December 31, 2015, was 0.39%, a decrease of 2 basis points compared to the same period in 2014. Net interest income after provision (reversal) for credit losses for the year ended December 31, 2014, was $3,543 million, an increase of 3.6% compared to the same period in 2013. Net interest margin for the year ended December 31, 2014, was 0.41%, a decrease of 3 basis points compared to the same period in 2013.

Interest income for the year ended December 31, 2015, was $8,156 million, an increase of 1.5% compared to the same period in 2014. This increase was due primarily to an increase in the average balance of advances, partially offset by lower yields on mortgage loans and investments and a decrease in the average balance of investments. Interest expense for the year ended December 31, 2015, was $4,608 million, an increase of 2.2% compared to the same period in 2014. This increase was due primarily to an increase in the average balance of consolidated obligations, partially offset by a decrease in the yield on consolidated obligations.

Interest income for the year ended December 31, 2014, was $8,032 million, a decrease of 4.4% compared to the same period in 2013. This decrease was due to lower yields on interest-earning assets, and a decrease in the average balance of mortgage loans, partially offset by an increase in the average balance of advances and investments. Interest expense for the year ended December 31, 2014, was $4,510 million, a decrease of 9.8% compared to the same period in 2013. This decrease was due to lower yields on consolidated obligations, partially offset by an increase in the average balance of consolidated obligations.

Table 32 - Net Interest Income after Provision (Reversal) for Credit Losses
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Interest income					
Advances	$ 2,794	$ 2,541	$ 2,559	$ 253	$ (18)
Prepayment fees on advances, net	179	79	138	100	(59)
Mortgage loans held for portfolio	1,631	1,705	1,852	(74)	(147)
Investments and other	3,552	3,707	3,849	(155)	(142)
Total interest income	8,156	8,032	8,398	124	(366)
Interest expense					
Consolidated obligations - Discount notes	825	536	511	289	25
Consolidated obligations - Bonds	3,650	3,779	4,248	(129)	(469)
Other borrowings	133	195	239	(62)	(44)
Total interest expense	4,608	4,510	4,998	98	(488)
Net interest income	3,548	3,522	3,400	26	122
Provision (reversal) for credit losses	4	(21)	(19)	25	(2)
Net interest income after provision (reversal) for credit losses	$ 3,544	$ 3,543	$ 3,419	$ 1	$ 124

Table 33 presents average balances and yields of the major categories of interest-earning assets and interest-bearing liabilities; net interest spread, which is the difference between the annualized yield on total interest-earning assets and the annualized yield on total interest-bearing liabilities; and net interest margin, which is net interest income expressed as a percentage of the average balance of total interest-earning assets. Due to the FHLBanks' cooperative structures, the FHLBanks generally earn a narrow net interest spread.

Table 33 - Spread and Yield Analysis
(dollars in millions)

	Year Ended December 31,								
	2015			2014			2013		
	Average Balance	Interest	Annualized Yield	Average Balance	Interest	Annualized Yield	Average Balance	Interest	Annualized Yield
Advances(1)	$ 581,321	$ 2,973	0.51%	$ 520,535	$ 2,620	0.50%	$ 445,147	$ 2,697	0.61%
Mortgage loans	44,423	1,631	3.67%	43,549	1,705	3.92%	46,690	1,852	3.97%
Investments									
Interest-bearing deposits and other	7,468	11	0.15%	7,908	11	0.14%	9,209	13	0.14%
Securities purchased under agreements to resell	31,205	33	0.11%	28,094	17	0.06%	26,704	24	0.09%
Federal funds sold	66,688	84	0.13%	70,084	60	0.09%	61,758	67	0.11%
Trading securities	9,470	182	1.92%	10,752	187	1.74%	11,211	207	1.85%
Available-for-sale securities(2)	75,386	1,439	1.91%	70,337	1,396	1.98%	67,209	1,374	2.04%
Held-to-maturity securities(2)	99,941	1,803	1.80%	109,055	2,036	1.87%	109,027	2,164	1.98%
Total investments and other interest income	290,158	3,552	1.22%	296,230	3,707	1.25%	285,118	3,849	1.35%
Total interest-earning assets	915,902	8,156	0.89%	860,314	8,032	0.93%	776,955	8,398	1.08%
Other non-interest-earning assets	5,747			4,986			5,051		
Fair-value adjustment on investment securities(2)	(1,466)			687			(1,056)		
Total assets	$ 920,183			$ 865,987			$ 780,950		
Consolidated obligations									
Discount notes	$ 394,332	825	0.21%	$ 309,815	536	0.17%	$ 220,478	511	0.23%
Bonds	456,886	3,650	0.80%	484,452	3,779	0.78%	482,990	4,248	0.88%
Other borrowings(3)	11,547	133	1.15%	14,573	195	1.34%	19,461	239	1.23%
Total interest-bearing liabilities	862,765	4,608	0.53%	808,840	4,510	0.56%	722,929	4,998	0.69%
Non-interest-bearing liabilities	10,652			11,572			15,051		
Total liabilities	873,417			820,412			737,980		
Capital	46,766			45,575			42,970		
Total liabilities and capital	$ 920,183			$ 865,987			$ 780,950		
Net interest income		$ 3,548			$ 3,522			$ 3,400	
Net interest spread			0.36%			0.37%			0.39%
Net interest margin			0.39%			0.41%			0.44%

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(1) Interest income for advances includes prepayment fees on advances, net.
(2) The average balances of AFS securities and HTM securities are reflected at amortized cost; therefore, the resulting yields do not give effect to changes in fair value or the non-credit component of previously recognized OTTI reflected in AOCI.
(3) The average balances do not include non-interest-bearing deposits, but do include the average balances and the related interest expense of mandatorily redeemable capital stock and subordinated notes.

Changes in both interest rates and average balances of interest-earning assets and interest-bearing liabilities have a direct influence on changes in net interest income, net interest margin, and net interest spread. Table 34 presents changes in interest income and interest expense due to volume-related and rate-related factors. Changes in interest income and interest expense not identifiable as either volume-related or rate-related, but rather attributable to both volume and rate changes, have been allocated to the volume and rate categories based on the proportion of the absolute value of the volume and rate changes.

Table 34 - Rate and Volume Analysis
(dollars in millions)

	2015 vs. 2014			2014 vs. 2013		
	Volume	Rate	Total	Volume	Rate	Total
Interest Income						
Advances(1)	$ 301	$ 52	$ 353	$ 437	$ (514)	$ (77)
Mortgage loans	34	(108)	(74)	(124)	(23)	(147)
Investments	(71)	(84)	(155)	148	(290)	(142)
Total interest income	264	(140)	124	461	(827)	(366)
Interest Expense						
Consolidated obligations	302	(142)	160	566	(1,010)	(444)
Other borrowings(2)	(37)	(25)	(62)	(64)	20	(44)
Total interest expense	265	(167)	98	502	(990)	(488)
Changes in net interest income	$ (1)	$ 27	$ 26	$ (41)	$ 163	$ 122

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(1) Includes prepayment fees on advances, net.
(2) The average balances do not include non-interest-bearing deposits, but do include the average balances and the related interest expense of mandatorily redeemable capital stock and subordinated notes.

Net interest income for the year ended December 31, 2015, was $3,548 million, an increase of 0.7% compared to the same period in 2014. This increase was due primarily to a 6.5% increase in the average balance of interest-earning assets and a 3 basis point decrease in the yield on interest-bearing liabilities, partially offset by a 6.7% increase in the average balance of interest bearing-liabilities and a 4 basis point decrease in yield on interest-earning assets.

Net interest income for the year ended December 31, 2014, was $3,522 million, an increase of 3.6% compared to the same period in 2013. This increase was due primarily to a 10.7% increase in the average balance of interest-earning assets and a 13 basis point decrease in yield on interest bearing-liabilities, partially offset by an 11.9% increase in the average balance of interest bearing-liabilities and a 15 basis point decrease in yield on interest-earning assets.

Factors Affecting Net Interest Income.

Advances. Interest income on advances was $2,973 million for the year ended December 31, 2015, an increase of 13.5%, compared to the same period in 2014, resulting from increases in both the average balance and yield on advances. For the year ended December 31, 2015, the average balance of advances was $581.3 billion, an increase of 11.7% compared to the same period in 2014 and the yield on advances was 0.51%, an increase of 1 basis point compared to the same period in 2014. The increase in the average balance of advances was the result of higher member demand and the increase in yield on advances was due primarily to higher prepayment fees.

Interest income on advances was $2,620 million for the year ended December 31, 2014, a decrease of 0.3% compared to the same period in 2013, resulting from a decrease in the yield on advances, partially offset by an increase in the average balance of advances. For the year ended December 31, 2014, the yield on advances was 0.50%, a decrease of 11 basis points compared to the same period in 2013 and the average balance of advances was $520.5 billion, an increase of 16.9% compared to the same period in 2013. The decrease in the yield on advances resulted from new advance originations, including the cumulative effect of members electing to restructure higher-yield advances in the low interest-rate environment, and lower prepayment fees. The increase in the average balance of advances was due to higher member demand from a wide range of members, particularly large asset members.

Mortgage Loans. Interest income on mortgage loans was $1,631 million for the year ended December 31, 2015, a decrease of 4.3%, compared to the same period in 2014, resulting from a decrease in yield on mortgage loans, partially offset by an increase in the average balance of mortgage loans. For the year ended December 31, 2015, the yield on mortgage loans was 3.67%, a decrease of 25 basis points compared to the same period in 2014 and the average balance of mortgage loans was $44.4 billion, an increase of 2.0% compared to the same period in 2014. The decrease in yield was due primarily to the runoff of higher yield mortgage loans and purchases of lower yield mortgage loans in the low interest-rate environment. The increase in the average balance of mortgage loans was driven by certain FHLBanks increasing purchases of mortgage loans from members.

Interest income on mortgage loans was $1,705 million for the year ended December 31, 2014, a decrease of 7.9%, compared to the same period in 2013, resulting from decreases in both the average balance and yield on mortgage loans. For the year ended December 31, 2014, the average balance of mortgage loans was $43.5 billion, a decrease of 6.7% compared to the same period in 2013 and the yield on mortgage loans was 3.92%, a decrease of 5 basis points compared to the same period in 2013. The decrease in the average balance of mortgage loans was driven by principal repayments exceeding mortgage purchases.

Investments. Interest income on investments was $3,552 million for the year ended December 31, 2015, a decrease of 4.2%, compared to the same period in 2014, resulting from decreases in both the average balance and yield on investments. For the year ended December 31, 2015, the average balance of investments was $290.2 billion, a decrease of 2.0% compared to the same period in 2014 and the yield on investments 1.22%, a decrease of 3 basis points compared to the same period in 2014. The decrease in the average balance of investments was primarily driven by decreases in the average balances of investment securities and federal funds sold, partially offset by an increase in securities purchased under agreements to resell. The decrease in yield resulted primarily from the runoff of higher-yield investments and reinvestment in the low interest-rate environment.

Interest income on investments was $3,707 million for the year ended December 31, 2014, a decrease of 3.7%, compared to the same period in 2013, resulting from a decrease in yield on investments, partially offset by an increase in the average balance of investments. For the year ended December 31, 2014, the yield on investments was 1.25%, a decrease of 10 basis points compared to the same period in 2013 and the average balance of investments was $296.2 billion, an increase of 3.9% compared to the same period in 2013. The decrease in yield resulted primarily from the runoff of higher-yield investments and reinvestment in the low interest-rate environment. Partially offsetting this decrease was the higher accretion of prior credit impairments into interest income over the remaining lives of certain other-than-temporarily impaired private-label mortgage-backed securities, resulting from improvements in expected cash flows. (See *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements for information on other-than-temporary impairment.) The increase in the average balance of investments was primarily driven by the higher average balances of federal funds sold, investment securities, and securities purchased under agreements to resell, partially offset by a decrease in the average balance of interest-bearing deposits.

Consolidated Obligations. Interest expense on consolidated obligations was $4,475 million for the year end December 31, 2015, an increase of 3.7%, compared to the same period in 2014, resulting from an increase in the average balance of consolidated obligations, partially offset by a decrease in the yield on consolidated obligations. For the year ended December 31, 2015, the average balance of consolidated obligations was $851.2 billion, an increase of 7.2%, compared to the same period in 2014 and the yield on consolidated obligations was 0.53%, a decrease of 1 basis point compared to the same period in 2014. The increase in the average balance of consolidated obligations was driven by an increase of 27.3% in the average balance of consolidated discount notes, partially offset by a decrease of 5.7% in the average balance of consolidated bonds. The decrease in the yield on consolidated obligations was due to a shift towards lower-yielding short-term consolidated obligations.

Interest expense on consolidated obligations was $4,315 million for the year ended December 31, 2014, a decrease of 9.3% compared to the same period in 2013, resulting from a decrease in the yield on consolidated obligations, partially offset by an increase in the average balance of consolidated obligations. For the year ended December 31, 2014, the average balance of consolidated obligations was $794.3 billion, an increase of 12.9%, compared to the same period in 2013 and the yield on consolidated obligations was 0.54%, a decrease of 14 basis points compared to the same period in 2013. The increase in the average balance of consolidated obligations was due primarily to an increase of 40.5% in the average balance of consolidated discount notes. The decrease in the yield on consolidated obligations was due to a shift towards lower-yielding short-term consolidated obligations and the low interest-rate environment.

Effect of Derivatives and Hedging Activities on Net Interest Income

Net interest income includes components related to the effect of derivatives and hedging activities resulting from certain FHLBanks' hedging strategies. If a hedging relationship is designated and qualifies for hedge accounting treatment, the net interest settlements of interest receivables or payables related to derivatives designated in fair value or cash flow hedge relationships are recognized as adjustments to interest income or expense of the designated hedged item. In addition, when hedge accounting is discontinued, the cumulative basis adjustment on the hedged item is amortized or accreted into net interest income over the remaining life of the hedged item using a level-yield methodology. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional information on the effect of derivatives and hedging activities.)

Net interest income for the year ended December 31, 2015, was negatively affected by $181 million of accelerated amortization, recorded by the FHLBank of Atlanta, due to prepayments of previously restructured and redesignated advances. However, this accelerated amortization was offset by corresponding gains recorded in net gains(losses) on derivatives and hedging activities included in non-interest income. Table 35 presents the effect of derivatives and hedging activities on net interest income and Table 37 presents the effect of derivatives and hedging activities on non-interest income.

Table 35 - Effect of Derivatives and Hedging Activities on Net Interest Income
(dollars in millions)

	Year Ended December 31, 2015						
	Advances	Investment Securities	Mortgage Loans	Deposits	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income							
Amortization and accretion of hedging activities in net interest income	$ (397)	$ 97	$ (28)	$ —	$ 13	$ (3)	$ (318)
Net interest settlements included in net interest income(1)	(2,807)	(691)	—	—	1,870	(266)	(1,894)
Total effect on net interest income	$ (3,204)	$ (594)	$ (28)	$ —	$ 1,883	$ (269)	$ (2,212)

	Year Ended December 31, 2014						
	Advances	Investment Securities	Mortgage Loans	Deposits	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income							
Amortization and accretion of hedging activities in net interest income	$ (293)	$ 120	$ (29)	$ —	$ 73	$ (2)	$ (131)
Net interest settlements included in net interest income(1)	(3,174)	(658)	—	1	2,036	(281)	(2,076)
Total effect on net interest income	$ (3,467)	$ (538)	$ (29)	$ 1	$ 2,109	$ (283)	$ (2,207)

	Year Ended December 31, 2013						
	Advances	Investment Securities	Mortgage Loans	Deposits	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income							
Amortization and accretion of hedging activities in net interest income	$ (281)	$ 118	$ (46)	$ —	$ 164	$ (3)	$ (48)
Net interest settlements included in net interest income(1)	(3,520)	(548)	—	2	2,323	(293)	(2,036)
Total effect on net interest income	$ (3,801)	$ (430)	$ (46)	$ 2	$ 2,487	$ (296)	$ (2,084)

(1) Represents interest income or expense on derivatives included in net interest income.

Non-Interest Income

Non-interest income for the year ended December 31, 2015, was $843 million, an increase of $826 million compared to the same period in 2014. This increase was due primarily to higher gains on litigation settlements, as well as net gains on derivatives and hedging activities, partially offset by higher net losses on trading securities.

Non-interest income for the year ended December 31, 2014, was $17 million, a decrease of $312 million compared to the same period in 2013. This decline was due mainly to net losses on derivatives and hedging activities, lower gains on litigation settlements, partially offset by lower net losses on trading securities and debt extinguishments in 2014.

Table 36 - Changes in Non-Interest Income
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Net other-than-temporary impairment losses	$ (78)	$ (15)	$ (15)	$ (63)	$ —
Net gains (losses) on trading securities	(131)	(17)	(284)	(114)	267
Net realized gains (losses) from sale of available-for-sale securities	60	1	21	59	(20)
Net realized gains (losses) from sale of held-to-maturity securities	15	9	—	6	9
Net gains (losses) on financial instruments held under fair value option	(31)	(76)	(18)	45	(58)
Net gains (losses) on derivatives and hedging activities	182	(148)	416	330	(564)
Gains on litigation settlements, net	688	135	202	553	(67)
Net gains (losses) on debt extinguishments	(4)	—	(103)	(4)	103
Other, net	142	128	110	14	18
Total non-interest income (loss)	$ 843	$ 17	$ 329	$ 826	$ (312)

Other-than-Temporary Impairment Losses. The FHLBanks update their other-than-temporary impairment analysis each quarter to reflect current housing market conditions, changes in anticipated housing market conditions, observed and anticipated borrower behavior, and updated information on collateral underlying private-label mortgage-backed securities. This process includes updating key aspects of the FHLBanks' loss projection models. Net other-than-temporary impairment losses for the year ended December 31, 2015, were $78 million, due primarily to the FHLBank of Seattle classifying all investment securities as available-for-sale and recording a $52 million other-than-temporary impairment charge based on the FHLBank of Seattle's intent to sell its private-label mortgage backed securities in connection with its merger with the FHLBank of Des Moines. The FHLBank of Seattle subsequently sold these private-label mortgage backed securities and realized a $52 million gain from the sale of available-for-sale securities in March 2015. Net other-than-temporary impairment losses for both the years ended December 31, 2014 and 2013, were $15 million. (See *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements, *Critical Accounting Estimates - OTTI for Investment Securities*, and *Risk Management-Credit Risk- Investments* for additional information.)

Gains (Losses) on Trading Securities. The FHLBanks generally hold trading securities for liquidity purposes. Trading securities are recorded at fair value, with changes in fair value reflected in non-interest income. There are a number of factors that affect the fair value of these securities, including changes in interest rates, credit spreads, the passage of time, and volatility. Net losses on trading securities for the years ended December 31, 2015, 2014, and 2013, were $131 million, $17 million, and $284 million. Certain trading securities are being economically hedged, and the gains (losses) on these securities are generally offset by the change in fair value of the associated derivatives. (See Table 37 for additional information regarding the effect of derivatives and hedging activities on non-interest income).

Realized Gains (Losses) from Sale of Available-for-Sale Securities. Net realized gains from sale of available-for-sale securities for the year ended December 31, 2015, were $60 million, of which $52 million was due to the FHLBank of Seattle's sale of its private-label mortgage-backed securities in connection with its merger with the FHLBank of Des Moines. Net realized gains from sale of available-for-sale securities for the years end December 31, 2014 and 2013, were $1 million and $21 million.

Gains (Losses) on Financial Instruments Held under Fair Value Option. Certain FHLBanks elect the fair value option for certain financial assets and certain financial liabilities and recognize the changes in fair value on these assets and liabilities as unrealized gains and losses in current period earnings. The use of the fair value option allows these FHLBanks to mitigate potential income statement volatility that can arise when an economic derivative is adjusted for changes in fair value but the related hedged item is not. Net losses on financial instruments held under fair value option for the years ended December 31, 2015, 2014, and 2013, were $31 million, $76 million, and $18 million. (See Table 37 for additional information regarding the gains (losses) on financial instruments held under fair value option and the effect of derivatives and hedging activities on non-interest income.)

Fair values of advances and consolidated obligations held under fair value option vary from period to period based on changes in a wide range of market factors, including the current and projected levels of interest rates, credit spreads, and volatility. The significant inputs used by the FHLBanks to determine the fair value of advances and consolidated obligations are the consolidated obligation curve, LIBOR swap curve, volatility assumptions, and spread assumptions. Additionally, net gains and losses are affected by changes in the composition of the financial instruments held under fair value option. (See Note 20 - Fair Value to the accompanying combined financial statements for additional information.)

Gains (Losses) on Derivatives and Hedging Activities. Fair value estimates for an FHLBank's derivatives and hedging positions fluctuate with changes in market conditions. In general, an FHLBank holds derivatives and associated hedged instruments to the maturity, call, or put date. Therefore, as a matter of timing, nearly all of the cumulative net gains and losses for these financial instruments generally reverse over the remaining contractual terms of the hedged financial instruments. However, there may be instances when an FHLBank terminates these instruments prior to maturity or prior to the call or put dates. Terminating the financial instrument or hedging relationship may result in a realized gain or loss. Table 37 presents the effect of derivatives and hedging activities on non-interest income.

Table 37 - Effect of Derivatives and Hedging Activities on Non-Interest Income
(dollars in millions)

	Year Ended December 31, 2015							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and hedging activities								
Gains (losses) related to fair value hedge ineffectiveness	$ 277	$ (21)	$ —	$ (28)	$ 2	$ —	$ —	$ 230
Gains (losses) related to cash flow hedge ineffectiveness	—	—	—	—	2	—	—	2
Gains (losses) related to derivatives not designated as hedging instruments	(59)	(130)	3	157	(15)	(8)	2	(50)
Total net gains (losses) on derivatives and hedging activities	218	(151)	3	129	(11)	(8)	2	182
Net gains (losses) on trading securities(1)	—	(124)	—	—	—	—	—	(124)
Net gains (losses) on financial instruments held at fair value	(34)	—	(2)	(1)	6	—	—	(31)
Total effect on non-interest income	$ 184	$ (275)	$ 1	$ 128	$ (5)	$ (8)	$ 2	$ 27

	Year Ended December 31, 2014							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and hedging activities								
Gains (losses) related to fair value hedge ineffectiveness	$ 161	$ (59)	$ —	$ (28)	$ —	$ —	$ —	$ 74
Gains (losses) related to cash flow hedge ineffectiveness	—	—	—	—	1	—	—	1
Gains (losses) related to derivatives not designated as hedging instruments	(91)	(257)	(7)	217	(48)	(38)	1	(223)
Total net gains (losses) on derivatives and hedging activities	70	(316)	(7)	189	(47)	(38)	1	(148)
Net gains (losses) on trading securities(1)	—	1	—	—	—	—	—	1
Net gains (losses) on financial instruments held at fair value	(10)	—	—	(68)	2	—	—	(76)
Total effect on non-interest income	$ 60	$ (315)	$ (7)	$ 121	$ (45)	$ (38)	$ 1	$ (223)

	Year Ended December 31, 2013							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and hedging activities								
Gains (losses) related to fair value hedge ineffectiveness	$ 240	$ 40	$ —	$ (41)	$ —	$ —	$ —	$ 239
Gains (losses) related to cash flow hedge ineffectiveness	—	—	—	(2)	5	—	—	3
Gains (losses) related to derivatives not designated as hedging instruments	56	131	(6)	(42)	14	21	—	174
Total net gains (losses) on derivatives and hedging activities	296	171	(6)	(85)	19	21	—	416
Net gains (losses) on trading securities(1)	—	(278)	—	—	—	—	—	(278)
Net gains (losses) on financial instruments held at fair value	(170)	—	—	153	(1)	—	—	(18)
Total effect on non-interest income	$ 126	$ (107)	$ (6)	$ 68	$ 18	$ 21	$ —	$ 120

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(1) Includes only those gains (losses) on trading securities that have an assigned economic derivative; therefore, this line item may not agree to the Combined Statement of Income.

Net gains on derivatives and hedging activities for the year ended December 31, 2015 of $182 million were due primarily to fair value hedge ineffectiveness related to advances. Fair value hedge ineffectiveness for the year ended December 31, 2015, was driven by gains of $181 million recorded by the FHLBank of Atlanta, related to prepayments of previously restructured and redesigned advances. However, these gains were offset by a corresponding amount of accelerated amortization included in interest income on advances (See Table 35 for additional information regarding the effect of derivatives and hedging activities on net interest income.)

Net losses on derivatives and hedging activities for the year ended December 31, 2014 of $148 million were due primarily to changes in the fair value of derivatives not designated as qualifying accounting hedges. Net gains on derivatives and hedging activities for the year ended December 31, 2013 of $416 million were primarily due to fair value hedge ineffectiveness related to advances and to changes in the fair value of derivatives not designated as qualifying accounting hedges.

Fair values are based on a wide range of factors, including current and projected levels of interest rates, credit spreads, and volatility. Hedge ineffectiveness occurs when changes in the fair value of the derivative and the associated hedged instrument do not perfectly offset. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional information on the financial effect of derivatives and hedging activities.)

Gains on Litigation Settlement, Net. Several of the FHLBanks agreed to settle certain claims arising from investments in private-label mortgage-backed securities. Gains on litigation settlements, which are net of related legal expenses, were $688 million for the year ended December 31, 2015, due primarily to the FHLBank of San Francisco's $459 million settlement during the first quarter of 2015, and the FHLBank of Boston's $135 million settlement during the second quarter of 2015 and $50 million settlement during the fourth quarter of 2015. Gains on litigation settlements, which were net of related legal expenses were $135 million, and $202 million for the years ended December 31, 2014 and 2013.

Net Gains (Losses) on Debt Extinguishments. Certain FHLBanks repurchased and extinguished certain higher-cost debt, which resulted in losses of $4 million and $103 million for the years ended December 31, 2015 and 2013. These FHLBanks expect the debt extinguishments to reduce future interest expense. There were no net gains (losses) on debt extinguishments for the year ended December 31, 2014.

Non-Interest Expense

Non-interest expense for the year ended December 31, 2015, was $1,199 million, an increase of 14.6% compared to the same period in 2014, due primarily to increases in compensation and benefits and other operating expenses. Non-interest expense for the year ended December 31, 2014, was $1,046 million, an increase of 10.9% compared to the same period in 2013, due primarily to increases in other expense, other operating expenses, and compensation and benefits.

Table 38 - Changes in Non-Interest Expense
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Compensation and benefits	$ 637	$ 559	$ 544	$ 78	$ 15
Other operating expenses	448	373	345	75	28
Federal Housing Finance Agency	59	58	52	1	6
Office of Finance	46	43	44	3	(1)
Other	9	13	(42)	(4)	55
Total non-interest expense	$ 1,199	$ 1,046	$ 943	$ 153	$ 103

Compensation and Benefits. These expenses consist of costs for FHLBank employees, including salaries, incentives, and health and retirement benefits. For the year ended December 31, 2015, compensation and benefits expense was $637 million, an increase of 14.0% compared to the same period in 2014. This increase was due primarily to change in control agreements and severance packages paid to transition employees, as well as a discretionary pension contribution, related to the merger of the FHLBanks of Des Moines and Seattle. In addition, there were staffing increases and increased incentive compensation accruals at certain FHLBanks. For the year ended December 31, 2014, compensation and benefits expense was $559 million, an increase of 2.8% compared to the same period in 2013, due primarily to staffing increases and increased incentive compensation accruals at certain FHLBanks.

Other Operating Expenses. These expenses consist primarily of professional and other contractual services, occupancy costs, depreciation and amortization, and information technology. For the year ended December 31, 2015, other operating expenses were $448 million, an increase of 20.1% compared to the same period in 2014. This increase was driven primarily by the FHLBank of Seattle terminating an arrangement to reduce potential future costs, related to the incurrence of certain private-label mortgage-backed securities litigation expenses and related charges, resulting in $58 million recorded in other operating expense during the second quarter of 2015. For the year ended December 31, 2014, other operating expenses were $373 million, an increase of 8.1% compared to the same period in 2013.

FHFA Expenses. The FHLBanks fund the portion of the FHFA's operating costs and working capital fund that relate to the FHLBanks, as determined by the FHFA. These costs are based on the FHFA's annual budget and are under the sole control of the FHFA. Each FHLBank pays its pro-rata share of FHFA expenses based on the ratio of each FHLBank's minimum required regulatory capital to the aggregate minimum required regulatory capital of all FHLBanks.

Office of Finance Expenses. The FHLBanks also fund the operating and capital expenditures of the Office of Finance, a joint office of the FHLBanks that issues and services consolidated obligations, prepares the FHLBanks' quarterly and annual combined financial reports, and fulfills certain other functions.

Affordable Housing Program Assessments

AHP assessments for the year ended December 31, 2015, were $332 million, an increase of 23.4% compared to the same period in 2014. AHP assessments for the year ended December 31, 2014, were $269 million, a decrease of 8.2% compared to the same period in 2013. AHP assessments result from individual FHLBank income subject to assessments.

By regulation, the FHLBanks must annually set aside for the AHP the greater of the aggregate of $100 million or 10% of the individual FHLBank's income subject to assessment. In addition to the required assessment, an FHLBank's board of directors may elect to make voluntary contributions to the AHP. 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. (See *Note 15 - Affordable Housing Program (AHP)* to the accompanying combined financial statements for additional information related to the AHP calculation.)

AHP helps members provide subsidized and other low-cost funding, as well as grants, to create affordable rental and homeownership opportunities. All FHLBank operating costs for the AHP are included in operating expenses, so all AHP assessments go directly to support affordable housing projects.

Interbank Transfers of Consolidated Bonds and Their Effect on Combined Net Income

Combined net income of the FHLBanks is affected by interbank transfers of the liability on outstanding consolidated bonds. These transactions arise when one FHLBank transfers its direct liability on outstanding consolidated bonds to another FHLBank. By engaging in these transactions, two FHLBanks are able to better match their funding needs by transferring funds held by one FHLBank to another FHLBank that needs funds. Because the consolidated bonds are the joint and several obligation of all FHLBanks, these interbank transactions have no effect on the holders of the consolidated bonds.

Total consolidated bonds of $115 million and $59 million at par value were transferred from an FHLBank to another FHLBank during the years ended December 31, 2015 and 2014. The amount of total interbank consolidated bonds transferred during a period depends on a variety of factors, such as (1) whether or not an assuming FHLBank can obtain equal or lower funding costs through interbank transfers as compared to issuing new debt, (2) an FHLBank's overall asset/liability management strategy, and (3) current market conditions.

The transferring FHLBank treats the transfer as a debt extinguishment because that FHLBank has been released from being the primary obligor. The transferring FHLBank records a gain or loss on the debt transferred to the assuming FHLBank based on the difference between the fair value and the carrying value of the consolidated bonds, including any unamortized premiums or discounts. The assuming FHLBank becomes the primary obligor because it now is directly responsible for repaying the debt. The assuming FHLBank records the fair value, including any premium or discount, as the initial carrying amount for the consolidated bond it received from the transferring FHLBank. However, under the principles of combination accounting, combining adjustments are required to reflect the transaction as if the transferring FHLBank continues to hold the consolidated bond for purposes of the FHLBanks' combined financial statements.

Table 39 presents the effect of interbank eliminations and rounding adjustments (collectively referred to as combining adjustments) on the Combined Statement of Income. Interbank adjustments include the elimination of:

- transfers of interbank consolidated bond liabilities;
- interest on purchased consolidated bonds, which is eliminated in interest income and interest expense; and
- fees related to the MPF Program that are eliminated in non-interest income and non-interest expense.

Table 39 - Effect of Combining Adjustments on Combined Statement of Income
(dollars in millions)

Effect on	Year Ended December 31, 2015	2014	2013
Interest income	$ (22)	$ (17)	$ (17)
Interest expense	9	30	(3)
Provision (reversal) for credit losses	(2)	(1)	(1)
Net interest income after provision (reversal) for credit losses	(29)	(46)	(13)
Non-interest income	(2)	(4)	21
Non-interest expense	(8)	(8)	(7)
Affordable Housing Program assessments	(1)	(1)	(1)
Net income	$ (22)	$ (41)	$ 16

Comprehensive Income

Comprehensive income is comprised of net income and other comprehensive income. Other comprehensive income is reported on the Combined Statement of Comprehensive Income and presents the net change in the accumulated other comprehensive income (loss) balances.

Other comprehensive loss for the year ended December 31, 2015, was $637 million, a decrease of $1,202 million compared to the same period in 2014. Other comprehensive loss primarily consisted of fair value losses on AFS securities, partially offset by net unrealized gains relating to cash flow hedging activities and accretion of non-credit portion on HTM securities.

Other comprehensive income for the year ended December 31, 2014, was $565 million, a decrease of $434 million compared to the same period in 2013. Other comprehensive income primarily consisted of fair value gains on AFS securities and accretion of non-credit portion on HTM securities.

Table 40 - Comprehensive Income
(dollars in millions)

	Year Ended December 31,			Change	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
Net income	$ 2,856	$ 2,245	$ 2,512	$ 611	$ (267)
Other comprehensive income					
Changes in fair value of AFS securities					
Net unrealized gains (losses) on AFS securities	(786)	198	(809)	(984)	1,007
Net change in fair value of other-than-temporarily impaired AFS securities	(84)	277	1,108	(361)	(831)
Total changes in fair value of AFS securities	(870)	475	299	(1,345)	176
Changes in non-credit OTTI losses					
Net amount of AFS and HTM impairment losses reclassified to (from) non-interest income	42	(2)	(1)	44	(1)
Reclassification of (gains) losses of the non-credit portion on AFS securities included in net income	(52)	—	(18)	(52)	18
Accretion of non-credit portion on HTM securities	114	133	153	(19)	(20)
Total changes in non-credit OTTI losses	104	131	134	(27)	(3)
Net unrealized gains (losses) relating to hedging activities	123	(1)	533	124	(534)
Other	6	(40)	33	46	(73)
Total other comprehensive income (loss)	(637)	565	999	(1,202)	(434)
Comprehensive income	$ 2,219	$ 2,810	$ 3,511	$ (591)	$ (701)

Changes in Fair Value of AFS securities. Changes in the fair value of AFS securities are recorded in other comprehensive income. The net change in unrealized gains (losses) on AFS securities, which have not been other-than-temporarily impaired, was due primarily to changes in interest rates, credit spreads, and volatility. The net change in the fair value of other-than-temporarily impaired AFS securities was driven by housing prices and the economic outlook, as well as changes in interest rates, credit spreads, and volatility. The distinction between the two categories is whether the AFS security has ever incurred an OTTI loss.

Changes in Non-Credit OTTI Losses. Changes in non-credit OTTI losses are comprised of the accretion of the non-credit portion on HTM securities, the reclassification of (gains) losses of the non-credit portion on AFS securities included in net income, and the net amount of AFS and HTM impairment losses reclassified to (from) non-interest income.

Net Unrealized Gains (Losses) Relating to Hedging Activities. Net unrealized gains (losses) relating to hedging activities is comprised of changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge, to the extent that the hedge is effective, until earnings are affected by the variability of the cash flows of the hedged transaction and the amounts are reclassified to non-interest income. The FHLBanks' gains (losses) on hedging activities fluctuate with volatility in the overall interest-rate environment and with the positions taken by the FHLBanks to hedge their risk exposure using cash flow hedges.

Liquidity and Capital Resources

Liquidity

Each FHLBank is required to maintain liquidity in accordance with the FHLBank Act, FHFA regulations, and policies established by its management and board of directors. Each FHLBank seeks to be in a position to meet the credit and liquidity needs of its members and to meet all current and future financial commitments by managing liquidity positions to maintain stable, reliable, and cost-effective sources of funds while taking into account market conditions, member demand, and the maturity profile of its assets and liabilities.

The FHLBanks may not be able to predict future trends in member credit needs because they are driven by complex interactions among a number of factors, including members' mortgage loan originations, other loan portfolio growth, deposit growth, and the attractiveness of advances compared to other wholesale borrowing alternatives. Each FHLBank regularly monitors current trends and anticipates future debt issuance needs to be prepared to fund its members' credit needs and its investment opportunities. An FHLBank's ability to expand its balance sheet and corresponding liquidity requirements in response to its members' increased credit needs is correlated to its members' requirements for advances and mortgage loans. Alternatively, in response to reduced member credit needs, an FHLBank may allow its consolidated obligations to mature without replacement, or repurchase and retire outstanding consolidated obligations, allowing its balance sheet to shrink.

Sources and Uses of Liquidity. The FHLBanks' primary sources of liquidity are consolidated obligations and high-quality, short-, and intermediate-term investments. The FHLBanks' 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 FHLBanks generally have comparatively stable access to funding at relatively favorable spreads to U.S. Treasury rates. As of December 31, 2015, the FHLBanks' consolidated obligations were rated AA+/Aaa (with outlook stable) by S&P and Moody's.

During the year ended December 31, 2015, the FHLBanks maintained continual access to funding and adapted their debt issuance to meet the needs of their members. The FHLBanks experienced an increase in short-term funding needs during the year ended December 31, 2015, resulting from market conditions and short-term advance demand that favored the issuance of shorter-term debt. Access to short-term debt markets has been reliable because investors, driven by risk aversion, have sought the FHLBanks' short-term debt as an asset of choice, which has led to advantageous funding opportunities and increased utilization of consolidated discount notes. However, due to the short maturity of the debt, the FHLBanks may be exposed to access to debt markets and refinancing risks. (See *Combined Financial Condition - Consolidated Obligations* for more information on short-term consolidated obligations.)

Other sources of liquidity include payments collected on advances and mortgage loans, proceeds from the issuance of capital stock, and member deposits. In addition, by law, the Secretary of the Treasury may acquire up to $4 billion of consolidated obligations of the FHLBanks. This authority may be exercised only if alternative means cannot be effectively employed to permit the FHLBanks to continue to supply reasonable amounts of funds to the mortgage market, and the ability to supply such funds is substantially impaired because of monetary stringency and a high level of interest rates. Any funds borrowed shall be repaid by the FHLBanks at the earliest practicable date.

The FHLBanks' primary uses of liquidity are the issuance of advances, purchase of mortgage loans and investments, repayment of consolidated obligations, payment of dividends, as well as other contractual payments. An FHLBank also maintains liquidity to redeem or repurchase excess capital stock, at its discretion, upon the request of a member or under an FHLBank's capital plan.

Regulatory Liquidity Requirements. To protect the FHLBanks against temporary disruptions in access to the debt markets in response to a rise in capital markets volatility, the FHFA requires each FHLBank to:

- maintain contingency liquidity sufficient to meet liquidity needs that shall, at a minimum, cover five calendar days of inability to access consolidated obligations in the debt markets;
- have available at all times an amount greater than or equal to its members' current deposits invested in advances with maturities not to exceed five years, deposits in banks or trust companies, and obligations of the U.S. Treasury;
- maintain, in the aggregate, unpledged qualifying assets in an amount at least equal to the amount of its participation in total consolidated obligations outstanding; and
- maintain, through short-term investments, an amount at least equal to its anticipated cash outflows under these two hypothetical scenarios.
    - One scenario assumes that an FHLBank cannot access the capital markets for a period of between 10 to 20 days, with initial guidance set at 15 days, and that during that time members do not renew any maturing, prepaid, or called advances.
    - The second scenario assumes that an FHLBank cannot access the capital markets for a period of between three to seven days, with initial guidance set at five days, and that during that period an FHLBank will automatically renew maturing and called advances for all members except very large members, provided that the member is well-rated by its primary Federal regulator or its state regulator equivalent for insurance companies and is well-rated by the individual FHLBank's internal credit rating system.

Each FHLBank also maintains a contingency liquidity plan designed to enable it to meet its obligations and the liquidity needs of members in the event of operational disruptions at the FHLBanks and/or the Office of Finance, or short-term capital market disruptions. During the year ended December 31, 2015, each of the FHLBanks was in compliance with the FHFA's regulatory contingency liquidity requirements. As defined by FHFA regulations, contingency liquidity means the sources of cash an FHLBank may use to meet its operational requirements when its access to capital markets is impeded, and includes:

- marketable securities with a maturity of one year or less;
- self-liquidating assets with a maturity of seven days or less;
- assets that are generally accepted as collateral in the repurchase agreement market; and
- irrevocable lines of credit from financial institutions rated not lower than the second highest rating category by a nationally recognized statistical rating organization.

Office of Finance Funding Contingency Plan Policy. The Office of Finance has an allocation methodology for the proceeds from the issuance of consolidated obligations when consolidated obligations cannot be issued in sufficient amounts to satisfy all FHLBank demand for funding during periods of financial distress and when its existing allocation processes are deemed insufficient. The purpose and objective of this allocation methodology is to ensure that guidance is in place to facilitate the ability of the Office of Finance to meet the funding needs of FHLBanks when market conditions threaten to limit or prevent access to funding in periods of financial distress. In general, this methodology provides that the proceeds in these circumstances will be allocated among the FHLBanks based on relative FHLBank regulatory capital unless the Office of Finance determines that there is an overwhelming reason to adopt a different allocation method. As is the case during any instance of a disruption in an FHLBank's ability to access the capital markets, market conditions or this allocation could adversely impact an FHLBank's ability to finance its operations, which could thereby adversely impact that FHLBank's financial condition and results of operations.

Capital Resources

At December 31, 2015, each of the FHLBanks was in compliance with its statutory minimum capital requirements. (See *Note 17 - Capital* to the accompanying combined financial statements for additional information regarding minimum regulatory capital requirements.) Regulatory guidance requires each FHLBank to assess, at least once a year, the adequacy of its retained earnings under various future financial and economic scenarios, including:

- parallel and non-parallel interest-rate shifts;
- changes in the interest-rate relationship between different yield curves; and
- changes in the credit quality of the FHLBank's assets.

Management and the board of directors of each FHLBank review the capital structure of that FHLBank on a periodic basis to ensure the capital structure supports the risk associated with its assets and addresses applicable regulatory and supervisory matters. In addition, an individual FHLBank may institute a higher capital requirement to meet internally-established thresholds or to address supervisory matters, limit dividend payments, or restrict excess capital stock repurchases as part of its retained earnings policies. (See *Note 17 - Capital* to the accompanying combined financial statements and *Business - Capital, Capital Rules, and Dividends* for more information.)

Annual Stress Test. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, as implemented by the FHFA, each FHLBank is required to perform an annual stress test to assess the potential impact of various financial and economic conditions on capital adequacy. The annual stress tests were completed and published in July 2015, based on each FHLBank's financial condition as of September 30, 2014, and the methodology prescribed by the FHFA. Each FHLBank's stress test results demonstrated capital adequacy under the severely adverse economic scenario defined by the FHFA.

Joint Capital Enhancement Agreement. The Joint Capital Enhancement Agreement, as amended (Capital Agreement), is intended to enhance the capital position of each FHLBank. The Capital Agreement provides that each FHLBank will allocate 20% of its net income each quarter to a separate restricted retained earnings account until the balance of that account equals at least one percent of that FHLBank's average balance of outstanding consolidated obligations for the previous quarter. These restricted retained earnings are not available to pay dividends. (See *Note 17 - Capital* - *Restricted Retained Earnings* to the accompanying combined financial statements for more information.)

Off-Balance Sheet Arrangements and Other Commitments

In the ordinary course of business, the FHLBanks engage in financial transactions that, in accordance with GAAP, are not recorded on the FHLBanks' Combined Statement of Condition or may be recorded on the FHLBanks' Combined Statement of Condition in amounts that are different from the full contract or notional amount of the transactions. (See *Note 21 - Commitments and Contingencies* - *Off-Balance Sheet Commitments* to the accompanying combined financial statements for a discussion and the amounts of the FHLBanks' off-balance sheet arrangements and other commitments.) The FHLBanks do not have any special purpose entities or any other types of off-balance sheet conduits.

Contractual Obligations

In the ordinary course of operations, the FHLBanks enter into certain contractual obligations. Table 41 presents the FHLBanks' significant contractual obligations at December 31, 2015.

Table 41 - Payments Due or Expiration Terms by Type of Contractual Obligation
(dollars in millions)

	Payments Due or Expiration Terms by Period				
	Less than 1 year	1 year to less than 3 years	3 years to less than 5 years	Thereafter	Total
Consolidated bonds(1)	$ 192,647	$ 127,035	$ 43,545	$ 47,354	$ 410,581
Commitments to fund/purchase mortgage loans	1,007	—	—	—	1,007
Subordinated notes	944	—	—	—	944
Mandatorily redeemable capital stock	144	87	450	64	745
Pension and post-retirement contributions(2)	48	29	30	117	224
Other unconditional purchase obligations	104	25	—	—	129
Operating leases	19	33	24	37	113
Total contractual obligations	$ 194,913	$ 127,209	$ 44,049	$ 47,572	$ 413,743

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(1) Does not include consolidated discount notes and contractual interest payments related to consolidated bonds. Payments for consolidated bonds (including index-amortizing notes) are allocated to a period based on contractual maturities. The actual timing of payments could be influenced by factors affecting redemptions. (See *Note 14 - Consolidated Obligations* to the accompanying combined financial statements for additional information.)

(2) Includes future funding contributions for the qualified pension plans and scheduled benefit payments for the nonqualified (unfunded) pension plans.

Critical Accounting Estimates

The preparation of financial statements in accordance with GAAP requires each FHLBank's management to make a number of judgments, estimates, and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities (if applicable), and the reported amounts of income and expense during the reported periods. Although each FHLBank's management believes that its judgments, estimates, and assumptions are reasonable, actual results may differ from these estimates.

Each individual FHLBank manages its operations independently and is responsible for establishing its own accounting and financial reporting policies in accordance with GAAP. An individual FHLBank's accounting and financial reporting policies and practices, including accounting estimates, are not always identical to those used by other FHLBanks because alternative policies and presentations are permitted under GAAP in certain circumstances. For example, the FHLBanks might not use the same models and assumptions in determining the fair values of their respective assets and liabilities. The use of different models or assumptions by individual FHLBanks could result in materially different valuations or other estimates, even when similar or identical assets and liabilities are being measured, and could have materially different effects on the net income and retained earnings of the respective FHLBanks, although each of these methodologies is in compliance with GAAP. However, the FHLBanks and the Office of Finance recognize the importance of transparency and enhanced consistency in financial reporting, and have implemented a uniform framework for completing their OTTI analyses of private-label MBS and a uniform valuation technique for determining the fair value of agency MBS and private-label MBS.

The accounting estimates and assumptions discussed in this section are those generally considered by each FHLBank's management to be the most critical to an understanding of its financial statements and the financial data it provides to the Office of Finance for this Combined Financial Report. These estimates require an FHLBank's management to make subjective or complex judgments about matters that are inherently uncertain. Investors are cautioned that future events rarely develop exactly as forecasted, and the best estimates routinely require adjustments, which could be material. A change in an estimate or assumption could have a material effect on an FHLBank's reported results of operations or its financial condition, and differences between the assumptions and estimates used by individual FHLBanks could result in material differences in the reported results of operations and financial condition of those FHLBanks.

Estimates and assumptions that are significant to the results of operations and financial condition of the FHLBanks include those used in conjunction with (1) OTTI for investment securities; (2) fair value estimates; (3) derivative hedging relationships; (4) amortization of premiums and accretion of discounts on investment securities and purchased mortgage loans; and (5) calculation of allowance for credit losses for each identified portfolio segment of financing receivables. (See *Note 1 - Summary of Significant Accounting Policies* to the accompanying combined financial statements for a description of accounting policies related to these estimates and assumptions.)

OTTI for Investment Securities

Uniform OTTI Framework. The FHLBanks have developed a uniform framework for completing their OTTI analyses in compliance with accounting guidance on the recognition and presentation of OTTI in the financial statements. To ensure consistency in the determination of OTTI for private-label MBS among all FHLBanks, the FHLBanks use a system-wide governance committee and a formal process to ensure consistency in key OTTI modeling assumptions used for purposes of their cash flow analyses for the majority of these securities. To assess whether the entire amortized cost bases of the FHLBanks' private-label MBS will be recovered, the FHLBanks performed a cash flow analysis for each such security that was previously other-than-temporarily impaired or where fair value was less than amortized cost as of the balance sheet date, except for certain private-label MBS where the underlying loan-level collateral data was not available using the OTTI modeling methodology under the FHLBanks' uniform framework.

The FHLBanks evaluate substantially all of their private-label MBS in an unrealized loss position using the FHLBanks' uniform framework and approved assumptions for purposes of OTTI cash flow analysis. For private-label MBS where underlying collateral data is not available, alternative procedures, as determined by each FHLBank, are used to assess these securities for OTTI. (See *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements for additional discussion regarding the recognition and presentation of OTTI.)

At December 31, 2015, seven FHLBanks owned certain private-label MBS where the underlying loan-level collateral data was not available. For private-label MBS that could not be modeled under the FHLBanks' uniform framework, alternative procedures were determined and approved by the system-wide governance committee. These alternative procedures established a formal process by which the FHLBanks could provide input on and approve key OTTI assumptions. Each affected FHLBank used the approved alternative procedures to assess these securities for OTTI. These securities represented approximately 2% of the FHLBanks' total unpaid principal balance of private-label MBS at December 31, 2015.

Each FHLBank updates its OTTI analysis each quarter to reflect current and anticipated housing market conditions, observed and anticipated borrower behavior, and updated information on the loans supporting the FHLBank's private-label MBS. This process includes updating key aspects of each FHLBank's loss projection models. In doing so, an FHLBank considers many factors including, but not limited to, the following:

- the credit ratings assigned to the securities by the nationally recognized statistical rating organizations;
- other indicators of issuer credit quality;
- the strength of the provider of any guarantees;
- the duration and magnitude of the unrealized loss; and
- whether the FHLBank has the intent to sell the security or more likely than not will be required to sell the security before the recovery of its amortized cost basis.

In the case of its private-label MBS, each FHLBank also considers prepayment speeds, the historical and projected performance of the underlying loans, and the credit support provided by the subordinate securities.

In performing the cash flow analysis for the private-label MBS under the uniform framework, each FHLBank uses two third-party models. The first model forecasts loan-level prepayment, default, and severity behavior. The second model is used to determine the resulting cash flows. The FHLBanks also assess the potential mitigation of projected credit losses through the application of existing monoline bond insurance from third parties by performing an assessment of the respective insurer's ability to cover the security's projected shortfall of contractual principal or interest. (See *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements for additional information.)

The modeling assumptions, significant inputs, and methodologies are material to an OTTI determination. Any changes to these assumptions, significant inputs, or methodologies could result in materially different outcomes to this determination, including the realization of additional OTTI charges that may be substantial. Each FHLBank is responsible for making its own OTTI determination and assessing the reasonableness of assumptions, significant inputs, and methodologies used, as well as for performing the required present value calculations using appropriate historical cost bases and yields. Two or more FHLBanks that hold the same private-label MBS are required to consult with one another to ensure they reach the same conclusion on any decision that a commonly-held private-label MBS is other-than-temporarily impaired. This includes the determination that the fair value and the credit loss component of the unrealized loss are consistent among those FHLBanks.

Table 42 presents the unpaid principal balances and the significant inputs used to assess private-label residential MBS and home equity loan ABS under the FHLBanks' uniform framework for OTTI, as well as related current credit enhancements as of December 31, 2015. The calculated averages represent the dollar-weighted averages of all private-label residential MBS and home equity loan ABS in each category shown.

Table 42 - Significant Inputs for Private-Label Residential MBS and Home Equity Loan ABS
(dollars in millions)

	December 31, 2015				
		Significant Inputs			Current Credit Enhancement
	Unpaid Principal Balance	Prepayment Rates	Default Rates	Loss Severities	
		Weighted-Average	Weighted-Average	Weighted-Average	Weighted-Average
Private-label Residential MBS(1)					
Prime	$ 4,663	14.0%	7.3%	24.6%	7.8%
Alt-A	10,868	11.0%	21.8%	36.2%	7.8%
Subprime	578	2.9%	42.4%	56.0%	19.0%
Total private-label residential MBS	$ 16,109	11.6%	18.4%	33.6%	8.2%
Home Equity Loan ABS(1)					
Subprime	84	5.8%	6.3%	45.0%	37.8%
Total home equity loan ABS	$ 84	5.8%	6.3%	45.0%	37.8%

(1) The classification (prime, Alt-A, and subprime) is based on the model used to run the estimated cash flows for the individual securities, which may not necessarily be the same as the classification at the time of origination.

Adverse Case Scenario. In addition to evaluating its private-label MBS under a base case (or best estimate) scenario as discussed in *Note 8 - Other-than-Temporary Impairment Analysis* to the accompanying combined financial statements, each FHLBank performed a cash flow analysis for each of these securities under a more stressful scenario, or adverse case scenario. This adverse case scenario was primarily based on a short-term housing price forecast, which was five percentage points lower than the base case, followed by a recovery path with annual rates of housing price growth that includes rates which were 33% lower than the base case. The credit losses on all other-than-temporarily impaired private-label MBS under the base case and adverse case scenarios were $5 million and $14 million for the three months ended December 31, 2015. The base case scenario represents actual OTTI-related credit losses recognized in earnings for the three months ended December 31, 2015.

The estimated cash flows of the adverse case scenario were generated to estimate what the OTTI charges would have been under a more stressful scenario for the three months ended December 31, 2015. The adverse case scenario and associated results do not represent each FHLBank's current expectations, and therefore should not be construed as a prediction of each FHLBank's future results, market conditions, or the actual performance of these securities. Rather, the results from this hypothetical adverse case scenario provide a measure of the credit losses that the FHLBanks might incur if home price declines (and subsequent recoveries) are more adverse than those projected in each FHLBank's base case OTTI assessment.

Interest Income Recognition. When a security has been other-than-temporarily impaired, a new accretable yield is calculated for that security at its impairment measurement date. This adjusted yield is used to calculate the interest income recognized over the remaining life of that security, matching the amount and timing of its estimated future collectible cash flows. Subsequent to that security's initial OTTI, an FHLBank re-evaluates estimated future collectible cash flows on a quarterly basis. If the security has no additional OTTI based on this evaluation, the accretable yield is reassessed for possible adjustment on a prospective basis. Depending on an FHLBank's accounting method, the accretable yield is adjusted if there is either: (1) a significant increase in the security's expected cash flows or (2) a favorable or unfavorable change in the timing and amount of the security's expected cash flows. If there continue to be improvements in the estimated cash flows of securities previously identified as other-than-temporarily impaired, the accretion of yield adjustments is likely to continue to be a positive source of net interest income in future periods.

Monoline Bond Insurers. Certain FHLBanks' investment securities are insured by monoline bond insurers. The bond insurance on these investments guarantees the timely payments of principal and interest if these payments cannot be satisfied from the cash flows of the underlying mortgage pool(s). Private-label MBS insured by monoline bond insurers are cash flow tested for credit impairment. For private-label MBS protected by such monoline insurance, an FHLBank's OTTI analysis would look first to the performance of the underlying security, considering its embedded credit enhancements in the form of excess spread, over-collateralization, and credit subordination, to determine the collectability of all amounts due. If these protections are deemed insufficient to make timely payment of all amounts due, then an FHLBank may consider the capacity of the monoline bond insurer to cover any shortfalls. (See *Risk Management - Monoline Bond Insurance* for additional information regarding the FHLBanks' monoline bond insurance coverage on a limited number of private-label MBS.)

Fair Value Estimates

The use of fair value to measure the FHLBanks' financial instruments is fundamental to the FHLBanks' financial statements and is a critical accounting estimate because certain assets and liabilities are carried at fair value, including trading securities, available-for-sale securities, derivative assets and liabilities, certain advances, certain consolidated obligations, and certain other assets and liabilities. In addition, certain assets are measured at fair value on a non-recurring basis at December 31, 2015. These assets are subject to fair value adjustments in certain circumstances (for example, when there is evidence of impairment).

GAAP defines fair value 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 (i.e., an exit price). In general, the transaction price will equal the exit price, and therefore represents the fair value of the asset or liability at initial recognition. However, in concluding whether a transaction price represents fair value, each reporting entity is required to consider factors specific to the transaction and the asset or liability. In addition, the reporting entity 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. The three-level fair value hierarchy prioritizes the inputs into the valuation technique used to measure the fair value of the assets and liabilities held at fair value. The fair value hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and lowest priority to unobservable inputs (Level 3 measurements).

Table 43 presents the assets and liabilities measured at fair value and their respective percentages compared to total recurring assets and liabilities measured at fair value and to total assets and total liabilities as reported on the Combined Statement of Condition at December 31, 2015. (See *Note 20 - Fair Value* to the accompanying combined financial statements for details on fair value measurements.)

Table 43 - Assets and Liabilities Measured at Fair Value
(dollars in millions)

	December 31, 2015				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral (1)
Assets measured at fair value					
Recurring					
Fair value option	$ 13,798	$ —	$ 13,798	$ —	$ —
All other	87,521	130	80,549	8,296	(1,454)
Total recurring assets	101,319	130	94,347	8,296	(1,454)
Non-recurring	195	—	11	184	—
Total assets measured at fair value	$ 101,514	$ 130	$ 94,358	$ 8,480	$ (1,454)
Percentage of recurring assets to total recurring assets	100.0%	0.1%	93.1%	8.2%	(1.4)%
Percentage of recurring assets to total assets(2)	10.5%	—	9.7%	0.9%	(0.1)%
Percentage of total assets measured at fair value to total assets(2)	10.5%	—	9.7%	0.9%	(0.1)%
Liabilities measured at fair value					
Recurring					
Fair value option	$ 42,213	$ —	$ 42,213	$ —	$ —
All other	1,186	—	6,403	55	(5,272)
Total recurring liabilities	43,399	—	48,616	55	(5,272)
Total liabilities measured at fair value	$ 43,399	$ —	$ 48,616	$ 55	$ (5,272)
Percentage of recurring liabilities to total recurring liabilities	100.0%	—	112.0%	0.1%	(12.1)%
Percentage of recurring liabilities to total liabilities(2)	4.7%	—	5.3%	—	(0.6)%
Percentage of total liabilities measured at fair value to total liabilities(2)	4.7%	—	5.3%	—	(0.6)%

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty.
(2) The percentage is calculated based on the total assets of $969,353 million and total liabilities of $921,283 million as reported on the Combined Statement of Condition at December 31, 2015.

Each FHLBank uses valuation techniques that maximize the use of observable market-based inputs, when appropriate, to value the assets and liabilities carried at fair value on a recurring basis or to determine whether a fair value adjustment is needed for assets and liabilities to be carried at fair value on a non-recurring basis. Given the nature of some of the assets and liabilities carried at fair value, whether on a recurring or non-recurring basis, clearly determinable market-based valuation inputs are often not available. Therefore, the fair value measurements of these instruments use unobservable inputs and are classified as Level 3 within the fair value hierarchy. Level 3 assets primarily consist of private-label MBS. Due to unavailability of observable inputs for the Level 3 assets, fair values are determined by valuation models that use the following:

- third-party vendor prices;
- discounted cash flows, using market estimates of interest rates and volatility; or
- dealer prices on similar instruments.

The assumptions used in these models are based on each FHLBank's best estimate with respect to the following:

- discount rates;
- prepayments;
- market volatility; and
- other factors.

These assumptions may have a significant effect on the reported fair value of assets and liabilities. The use of different assumptions, as well as changes in market conditions, could result in materially different net income, other comprehensive income, and retained earnings.

Uniform Valuation Technique for MBS. Using a uniform framework, the FHLBanks' valuation technique first requires the establishment of a median price for each security using a formula based on the number of third-party vendor prices received:

- if four prices are received, the middle two prices are averaged to establish a median price;
- if three prices are received, the middle price is the median price;
- if two prices are received, the prices are averaged to establish a median price; and
- if one price is received, it is the median price (and also the final price), subject to further validation, consistent with the evaluation of outliers as discussed in the next paragraph.

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 default price. Prices that are outside the threshold (outliers) are subject to further analysis to determine if they are a better estimate of fair value. This analysis includes, but is not limited to, comparison to prices provided by an additional third-party valuation service, prices for similar securities, and non-binding dealer estimates. If the analysis determines an outlier or some other price is a better estimate of fair value, then the outlier or the other price is used as the final price rather than the default price. If the analysis confirms that an outlier is not representative of fair value, then the default price is used as the final price. In all cases, the final price is used to determine the fair value of the security.

Each individual FHLBank has its set of control processes that are designed to ensure its fair value measurements are appropriate and reliable. These control processes may include, but are not limited to, the following:

- obtaining the third-party pricing service methodologies and control reports;
- challenging a third-party pricing vendor when a price falls outside of the tolerance parameters;
- identifying a stale price, a price that changed significantly from prior valuations, and other anomalies that may indicate that a price may not be accurate; and
- reviewing pricing consistency within the same asset group to identify anomalies.

Prices for MBS CUSIPs held in common with other FHLBanks are reviewed for consistency. In using this common methodology, each FHLBank remains responsible for the selection and application of its fair value methodology and for the reasonableness of assumptions and inputs used.

Derivative Hedging Relationships

Derivatives accounting involves estimating the fair value of the derivatives and assessing the effectiveness of the hedging relationship using regression-based testing, based on simulated valuations derived from historical market data. These estimates include subjective calculations and estimates based on information available as of the date of the financial statements, which could be materially different based on different assumptions, calculations, and estimates. If hedging relationships meet the criteria, two approaches to hedge accounting can be used: short-cut hedge accounting and long-haul hedge accounting.

Short-Cut Hedge Accounting. A short-cut hedging relationship assumes no ineffectiveness and implies that the hedge between an interest-rate swap and an interest-bearing financial instrument is perfectly correlated. Therefore, it is assumed that changes in the fair value of the interest-rate swap and the interest-bearing financial instrument will perfectly offset one another. To qualify for short-cut accounting treatment, a number of restrictive conditions must be met, including but not limited to, the following:

- the notional amount of the interest-rate swap matches the principal amount of the interest-bearing financial instrument being hedged;
- the fair value of the interest-rate swap at the inception of the hedging relationship is zero;
- the formula for computing net settlements under the interest-rate swap is the same for each net settlement; and
- the interest-bearing financial instrument is not prepayable.

Provided that no terms changed, the entire change in the hedging instrument's fair value is considered to be effective at achieving offsetting changes in fair values or cash flows of the hedged asset or liability. If all the criteria are met, an FHLBank may apply the short-cut method to a qualifying hedge when the relationship is designated on the trade date of both the hedging instrument and the hedged items (for example, upon commitment to disburse advances or issue consolidated obligation bonds). In many hedging relationships, the hedged item is not recognized for accounting purposes until its settlement date; however, the FHLBanks record the changes in the hedging instrument and the hedged item's fair value beginning on the trade date, but the derivative relationship has no effect on earnings or capital.

Long-Haul Hedge Accounting. A long-haul hedging relationship implies a highly effective hedging relationship that requires an FHLBank to assess, retrospectively and prospectively, whether the derivative and hedged item has been and will be highly effective in offsetting changes in fair value attributable to the hedged risk. The changes in fair value for the derivative and the hedged item may or may not be perfectly correlated. Any difference in the change of fair value between the two will be recognized as a net gain (loss) on the statement of income. To maintain the highly effective relationship, this effectiveness testing of the hedge is performed at the inception of the hedge and thereafter, on at least a quarterly basis. An FHLBank may perform dollar-offset prospective testing at the inception of the hedge and calculate retrospective regressions after a sufficient number of data points have been accumulated to render a statistically significant result. Alternatively, an FHLBank may employ regression-based testing prospectively based on simulated valuations derived from historical market data. If, during this effectiveness testing, the hedge fails to maintain effectiveness at any point, the hedge relationship will be deemed ineffective. As a result, the hedged item's changes in fair value will no longer be evaluated for effectiveness, and will be treated as not highly effective.

If a hedging relationship is not considered highly effective, it does not qualify for hedge accounting treatment. Therefore, the hedged item's changes in fair value are not evaluated, even though an offsetting relationship between fair values or cash flows of the hedge and hedged items may be demonstrated. Changes in the fair value of such economic hedges of assets or liabilities for asset/liability management purposes are recorded in current period earnings.

See *Note 1 - Summary of Significant Accounting Policies* and *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional discussion regarding the FHLBanks' accounting for derivatives and types of hedging transactions.

Amortization of Premiums and Accretion of Discounts on Investment Securities and Purchased Mortgage Loans

When an FHLBank purchases investment securities and mortgage loans, it may not pay the seller the par value or the unpaid principal balance of the asset. If an FHLBank purchases the asset at a premium, the premium reduces the yield that an FHLBank recognizes on the asset below the stated coupon or note rate. Conversely, if an FHLBank purchases the asset at a discount, the discount increases the yield that FHLBank recognizes on the asset above the stated coupon or note rate.

The FHLBanks amortize premiums and accrete discounts in accordance with GAAP and recognize the amounts of amortization or accretion in current period earnings as a decrease or increase to interest income. An offsetting adjustment is made to the asset's net carrying value as the premiums are amortized and the discounts are accreted into interest income.

Contractual Interest Method. The amortization of premiums or accretion of discounts to interest income using the contractual interest method produces a constant level-yield over the contractual life, which represents the stated maturity. The contractual interest method recognizes the income effects of premiums and discounts over the contractual life of the asset based on the actual behavior of the underlying assets, including adjustments for actual prepayment activities, and reflects the contractual terms of the asset without regard to changes in estimated prepayments based on assumptions about future borrower behavior.

Retrospective Interest Method. Except when the contractual interest method is used, the FHLBanks apply the retrospective interest method on their investment securities and purchased mortgage loans for which prepayments reasonably can be expected and estimated. The retrospective interest method requires that an FHLBank estimate prepayments over the estimated life of the securities and make a retrospective adjustment of the effective yield each time that it changes the estimated life as if the new estimate had been known since the original acquisition date of the asset. Use of the retrospective method may increase volatility of reported earnings during periods of changing interest rates, and the use of different estimates or assumptions, as well as changes in external factors, could produce significantly different results. Declining interest rates generally accelerate prepayments, which accelerate the amortization of premiums and reduce current period earnings. Typically, declining interest rates also accelerate the accretion of discounts, which increases current period earnings. Conversely, rising interest rates generally result in slower prepayments, which shift premium amortization and discount accretion to future periods.

Allowance for Credit Losses

Each FHLBank is required to assess potential credit losses and establish an allowance for credit losses, as applicable, for each identified portfolio segment of financing receivables. A portfolio segment is the level at which an FHLBank develops and documents a systematic method for determining its allowance for credit losses. The FHLBanks' allowance for credit losses methodologies are discussed below for the following portfolio segments:

- credit products (advances, letters of credit, and other extensions of credit to borrowers);
- conventional MPF loans held for portfolio and conventional MPP loans held for portfolio; and
- government-guaranteed or -insured mortgage loans held for portfolio.

Furthermore, each FHLBank has established a systematic methodology for assessing other financing receivables for potential credit losses, including term securities purchased under agreements to resell and term federal funds sold. (See *Note 11 - Allowance for Credit Losses* to the accompanying combined financial statements for additional information on the FHLBanks' allowance for credit losses methodologies.)

The allowance for credit losses represents the best estimate by each FHLBank's management of the probable credit losses inherent in its financing receivable portfolios. Determining the amount of the allowance for credit losses is considered a critical accounting estimate because management's evaluation of the adequacy of the allowance for credit losses is subjective and requires significant estimates, such as the amounts and timing of estimated future cash flows, estimated losses based on historical loss experience, and consideration of current economic trends, all of which are susceptible to change. Each FHLBank's assumptions and judgments related to its allowance for credit losses are based on information available as of the date of the corresponding financial statements. Actual losses could differ from these estimates. (See *Risk Management - Credit Risk* for further discussion of how the FHLBanks monitor, limit, and assess credit risk on their financing receivables.)

Credit Products. Each FHLBank expects to collect all amounts due according to the contractual terms of its credit products based on the nature and quality of the collateral held as security for its credit products, its credit extension and collateral policies, its credit analysis, and the repayment history on its credit products. Accordingly, no allowance for losses on credit products was deemed necessary at December 31, 2015 and 2014. Furthermore, no liability to reflect an allowance for credit losses for off-balance sheet exposures was recorded at December 31, 2015 and 2014. No FHLBank has ever experienced a credit loss on any of its credit products.

The FHLBanks are required by FHFA regulation to obtain sufficient collateral on credit products to protect against losses. The FHLBanks are permitted to accept only certain collateral, such as the following:

- U.S. government or agency securities;
- residential mortgage loans;
- FHLBank deposits; and
- other real estate-related assets.

Each FHLBank may require additional collateral (whether or not that additional collateral meets the eligibility criteria previously discussed) or require that the borrower substitute existing collateral at any time. An FHLBank also has a statutory lien on each member's FHLBank stock as additional security for the indebtedness of that member. At December 31, 2015 and 2014, the rights to collateral held by the FHLBanks on a borrower-by-borrower basis had an estimated value that was equal to or exceeded the outstanding extensions of credit. Management of each FHLBank believes that adequate policies and procedures are in place to effectively manage that FHLBank's respective credit risk on its credit products. These policies and procedures may include, but are not limited to the following: (1) monitoring the creditworthiness and financial condition of the institutions to which the FHLBank lends funds; (2) reviewing the quality and value of collateral pledged by members to secure extensions of credit; (3) estimating borrowing capacity based on collateral value and collateral type for each member; and (4) evaluating historical loss experience.

Conventional MPF Mortgage Loans Held for Portfolio. At December 31, 2015 and 2014, each MPF FHLBank that holds mortgage loans under the MPF Program had an allowance for credit losses on mortgage loans held under that program. Each MPF FHLBank bases its allowance on its management's estimate of credit losses inherent in its mortgage loan portfolio at the statement of condition date. The estimate is based on the individual MPF FHLBank's loan portfolio performance history and/or on analysis of industry statistics for similar mortgage loan portfolios. Conventional loans, in addition to having the related real estate as collateral, are also credit enhanced either by the PFI, which is required to pledge qualified collateral to secure its credit enhancement obligation, or by the supplemental mortgage insurance (SMI) purchased by the PFI. If an MPF FHLBank had losses in excess of the estimated liquidation value of collateral held and credit enhancement amount, credit losses would be recognized for financial reporting purposes.

The allowance for credit losses on mortgage loans held under the MPF Program is established at a level that each FHLBank's management believes to be adequate to absorb its estimated credit losses related to specifically identified loans and estimated credit losses inherent in its total MPF loan portfolio.

The estimation of credit losses in the total MPF loan portfolio involves assessing the effect of current economic trends and specific events on the allowance for credit losses on mortgage loans. Furthermore, each FHLBank generally takes into consideration the following factors: (1) management's judgment as to the eligibility of PFIs to continue to service and credit-enhance the loans delivered to an MPF FHLBank; (2) evaluation of credit exposure on portfolio loans; (3) valuation and collectability of credit enhancements provided by PFIs or mortgage insurers; (4) estimation of loss exposure and historical loss experience; (5) loan portfolio characteristics and collateral valuations; and (6) industry data and prevailing economic conditions. Setting the level of reserves requires significant judgment, due to the inability to readily determine the fair value of all underlying properties and the uncertainty in other macroeconomic factors that make estimating defaults and severity imprecise, and regular evaluation by management.

Certain conventional mortgage loans, primarily impaired mortgage loans that are considered collateral-dependent, may be specifically identified for purposes of calculating the allowance for credit losses. These collateral-dependent loans, which may include loans on non-accrual status, are treated separately from the remaining MPF loans because sufficient information exists to make a reasonable estimate of the inherent loss on these MPF loans on an individual loan basis. MPF loans that are not individually evaluated are collectively evaluated for impairment. Migration analysis is a methodology for determining, through an FHLBank's experience over a historical period, the rate of default on pools of similar loans. Certain FHLBanks apply migration analysis to loans based on payment status categories such as current, 30, 60, and 90 days past due, as well as to loans 60 days past due following receipt of notice of filing from the bankruptcy court. Each FHLBank then estimates how many loans in these categories may migrate to a realized loss position, and applies a loss severity factor to estimate losses incurred at the statement of condition date. Primary mortgage insurance (PMI) and the credit enhancement amount provided by the PFI or by SMI are generally factored into the allowance for credit loss determination, provided that collection from the PFI or insurance companies is determined to be probable. The combination of these factors, as well as an additional judgmental amount determined by management due to uncertainties inherent in the estimation process, represents the estimated credit losses from conventional MPF loans. Although this amount is not allocated to any specific economic or credit event, it is intended to cover other inherent losses that may not be captured in the methodology previously described. Therefore, the total allowance for credit losses represents management's best estimate of probable loan losses. However, the actual loss that may occur on homogeneous pools of mortgage loans may be more or less than the estimated loss. Any potential losses that would be recovered from the credit enhancement amount, as well as PMI, are not generally reserved for as part of the allowance for credit losses on mortgage loans.

<u>Conventional MPP Mortgage Loans Held for Portfolio.</u> Each MPP FHLBank that has acquired mortgage loans under the MPP analyzes its MPP loans on a quarterly basis by estimating probable incurred losses, comparing these losses to credit enhancements, including the recoverability of insured amounts, and then establishes general or specific reserves based on the results. At December 31, 2015 and 2014, each MPP FHLBank had an allowance for credit losses on mortgage loans acquired under its MPP. If an MPP FHLBank had losses in excess of the estimated liquidation value of collateral held, PMI (if applicable), lender risk account, and SMI (if applicable), credit losses would be recognized for financial reporting purposes.

The MPP FHLBanks apply a consistent methodology to determine the adequacy of the allowance for credit losses. The key estimates and assumptions that affect each MPP FHLBank's allowance for credit losses generally include the following: (1) the characteristics of specific delinquent conventional loans outstanding under the MPP; (2) evaluations of the overall delinquent loan portfolio through the use of migration analysis; (3) loss severity estimates; (4) historical claims and default experience; (5) expected proceeds from credit enhancements; (6) comparisons to reported industry data; and (7) current economic trends and conditions. Setting the level of reserves requires significant judgment, due to the inability to readily determine the fair value of all underlying properties and the uncertainty in other macroeconomic factors that make estimating defaults and severity imprecise, and regular evaluation by management.

Government-Guaranteed or -Insured Mortgage Loans Held for Portfolio. FHLBanks purchase both conventional mortgage loans and government-guaranteed or -insured mortgage loans under the MPF Program and MPP. Government loans are insured or guaranteed by federal agencies, including the Federal Housing Administration, Department of Veterans Affairs, Rural Housing Service, and Department of Housing and Urban Development. Any losses from these mortgage loans are expected to be recovered from those entities or absorbed by the servicer or PFI, as applicable. Accordingly, the FHLBanks have determined that no allowance for credit losses is necessary in connection with government-guaranteed or -insured mortgage loans held for portfolio at December 31, 2015 and 2014.

Recent Accounting Developments

See *Note 2 - Recently Issued and Adopted Accounting Guidance* to the accompanying combined financial statements for a discussion regarding the effect of recently issued accounting guidance on the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.

Legislative and Regulatory Developments

The legislative and regulatory environment in which each FHLBank and its members and underwriters operate continues to evolve as a result of regulations enacted pursuant to the Housing Act and the Dodd-Frank Act. The FHLBanks' business operations, funding costs, rights, obligations, and/or the environment in which the FHLBanks carry out their mission are likely to continue to be significantly affected by these changes. Significant regulatory actions and developments for the period covered by this report are summarized below.

Significant FHFA Developments

FHFA Final Rule on FHLBank Membership. On January 20, 2016, the FHFA issued a rule effective February 19, 2016, that, among other things:

- makes captive insurance companies ineligible for FHLBank membership; and
- defines the “principal place of business” of an institution eligible for FHLBank membership to be the state in which it maintains its home office and from which the institution conducts business operations.

The rule defines a captive insurance company as a company that is authorized under state law to conduct insurance business but whose primary business is the underwriting of insurance for affiliated persons or entities.

Captive insurance company members that were admitted as FHLBank members prior to September 12, 2014 (the date the Finance Agency proposed this rule), will have their memberships terminated no later than February 19, 2021. Captive insurance company members that were admitted as FHLBank members on or after September 12, 2014, will have their memberships terminated no later than February 19, 2017. There are restrictions on the level and maturity of advances that FHLBanks can make to these members during the sunset periods.

In the final rule, the FHFA declined to adopt certain proposed provisions that would have required FHLBank members to hold specified levels of home mortgage loan assets on an ongoing basis. See *Risk Factors* for additional discussion regarding this final rule.

FHFA Proposed Rule on Acquired Member Assets. On December 17, 2015, the FHFA published a proposed rule that would amend the current Acquired Member Assets (AMA) rule, which governs an FHLBank’s ability to purchase and hold certain types of mortgage loans from its members. The proposed rule would allow an FHLBank to utilize its own model in lieu of a nationally recognized statistical rating organization ratings model to determine the credit rating for AMA loan assets and loan pools. The proposed rule would also eliminate the use of pool level insurance, such as supplemental mortgage insurance, as part of the required credit risk-sharing structure for AMA products; however, the FHLBanks are not currently acquiring AMA loans using this structure. It is not possible to determine whether the proposed rule, if adopted, would have a negative effect on the volume of AMA loan assets or on each FHLBank’s costs of operations. Comments on the proposed rule are due by April 15, 2016.

FHFA Final Rule on Responsibilities of Boards of Directors, Corporate Practices, and Corporate Governance Matters. On November 19, 2015, the FHFA issued a rule effective December 21, 2015, that, among other things, requires each FHLBank to:

- operate an enterprise wide risk management program and assign its chief risk officer certain enumerated responsibilities;

- maintain a compliance program headed by a compliance officer who reports directly to the chief executive officer and must regularly report to the board of directors (or a board committee);

- maintain board committees specifically responsible for risk management, audit, compensation, and corporate governance; and

- designate in its bylaws a body of law to follow for its corporate governance and indemnification practices and procedures, choosing from the law of the jurisdiction in which that FHLBank maintains its principal office, the Delaware General Corporation Law or the Revised Model Business Corporation Act. Each FHLBank made this designation by March 18, 2016, as required by the final rule.

Additionally, the rule provides that the FHFA has the authority to review a regulated entity's indemnification policies, procedures, and practices to ensure that they are conducted in a safe and sound manner, and that they are consistent with the body of law adopted by the board of directors of each FHLBank. The final rule is not expected to materially affect the FHLBanks' combined financial condition or combined results of operation.

Joint Final Rule on Margin and Capital Requirements for Covered Swap Entities. In October 2015, the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the FDIC, the Farm Credit Administration, and the FHFA (each an Agency and, collectively, the Agencies) jointly adopted final rules to establish minimum margin and capital requirements for registered swap dealers, major swap participants, security-based swap dealers, and major security-based swap participants (Swap Entities) that are subject to the jurisdiction of one of the Agencies (such entities, Covered Swap Entities, and the joint final rules, the Final Margin Rules). On January 6, 2016, the Commodity Futures Trading Commission (the CFTC) published its own version of the Final Margin Rules that generally mirrors the Final Margin Rules. The CFTC's rules apply only to a limited number of registered swap dealers, security-based swap dealers, major swap participants, and major security-based swap participants that are not subject to the jurisdiction of one of the Agencies.

When they take effect, the Final Margin Rules will subject non-cleared swaps and non-cleared security-based swaps between Covered Swap Entities and financial end-users that have material swaps exposure (i.e., an average daily aggregate notional amount that exceeds $8 billion in non-cleared swaps calculated in accordance with the Final Margin Rules) to a mandatory two-way minimum initial margin requirement. The minimum amount of the initial margin required to be posted or collected would be either the amount calculated by the Covered Swap Entity using a standardized schedule set forth as an appendix to the Final Margin Rules, which provides the gross initial margin (as a percentage of total notional exposure) for certain asset classes, or an internal margin model of the Covered Swap Entity conforming to the requirements of the Final Margin Rules that is approved by the Agency having jurisdiction over the particular Covered Swap Entity.

The Final Margin Rules specify the types of collateral that may be posted or collected as initial margin for non-cleared swaps and non-cleared security-based swaps with financial end-users (generally cash, certain government and GSE securities, certain liquid debt, certain equity securities, certain eligible publicly traded debt, and gold), and set forth haircuts for certain collateral asset classes. Initial margin must be segregated with an independent, third-party custodian, and generally may not be rehypothecated, except that cash funds may be placed with a custodian bank in return for a general deposit obligation under certain specified circumstances.

The Final Margin Rules will require minimum variation margin to be exchanged daily for non-cleared swaps and non-cleared security-based swaps between Covered Swap Entities and all financial end-users (without regard to the swaps exposure of the particular financial end-user). The minimum variation margin amount is the daily mark-to-market change in the value of the swap to the Covered Swap Entity, taking into account variation margin previously posted or collected. For non-cleared swaps and security-based swaps between Covered Swap Entities and financial end-users, variation margin may be posted or collected in cash or non-cash collateral that is considered eligible for initial margin purposes. Variation margin is not subject to segregation with an independent, third-party custodian, and may, if permitted by contract, be rehypothecated.

The variation margin requirement under the Final Margin Rules will become effective for the FHLBanks on March 1, 2017, and the initial margin requirement under the Final Margin Rules is expected to become effective for the FHLBanks on September 1, 2020.

No FHLBank is a Covered Swap Entity under the Final Margin Rules. But the FHLBanks are financial end-users under the Final Margin Rules, and may have material swaps exposure when the initial margin requirements under the Final Margin Rules become effective.

Because each FHLBank is currently posting and collecting variation margin on non-cleared swaps, it is not anticipated that the variation margin requirement under the Final Margin Rules will have a material effect on FHLBank costs. However, when the initial margin requirements under the Final Margin Rules become effective, each FHLBank anticipates that its cost of engaging in non-cleared swaps may increase.

FHFA Core Mission Achievement Advisory Bulletin 2015-05. On July 14, 2015, the FHFA issued an advisory bulletin that provides guidance relating to a core mission asset ratio by which the FHFA will assess each FHLBank's core mission achievement. The FHFA plans to assess core mission achievement by using a ratio of primary mission assets, which includes advances and mortgage loans acquired from members (also referred to as acquired member assets), to consolidated obligations. The core mission asset ratio will be calculated annually at year-end as part of the FHFA's examination process, using annual average par values.

The advisory bulletin provides the FHFA's expectations for each FHLBank's strategic plan based on its ratio, which are:

- when the ratio is at least 70% or higher, the strategic plan should include an assessment of that FHLBank's prospects for maintaining this level;
- when the ratio is at least 55% but less than 70%, the strategic plan should explain that FHLBank's plan to increase its mission focus; and
- when the ratio is below 55%, 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. The advisory bulletin provides that if an FHLBank maintains a ratio below 55% over the course of several consecutive reviews, then that FHLBank's board of directors should consider possible strategic alternatives.

See *Supplemental Information - Individual FHLBank Selected Financial Data and Financial Ratios* for each FHLBank's core mission asset ratio at December 31, 2015.

Other Significant Development

Amendment of FHLBank Act to Make Privately-Insured Credit Unions Eligible for FHLBank Membership. On December 4, 2015, President Obama signed a bill known as the Fixing America's Surface Transportation Act (FAST Act), which includes a provision that amends the FHLBank Act to allow privately-insured credit unions to be eligible for FHLBank membership. The FAST Act requires privately-insured credit unions to satisfy certain initial and ongoing eligibility and reporting requirements. The FHLBanks are awaiting implementing regulations from the FHFA with respect to membership eligibility for privately-insured credit unions.

Recent Rating Agency Actions

During 2015, no rating agency actions occurred with regard to the FHLBanks or their consolidated obligations. At March 15, 2016, consolidated obligations are rated Aaa/P-1 by Moody's and AA+/A-1+ by S&P. Table 44 presents each FHLBank's long-term credit rating, short-term credit rating, and outlook at March 15, 2016.

Table 44 - FHLBanks' Long-Term Credit Ratings, Short-Term Credit Ratings, and Outlook at March 15, 2016

	S&P		Moody's	
	Long-Term/ Short-Term Rating	Outlook	Long-Term/ Short-Term Rating	Outlook
Boston	AA+/A-1+	Stable	Aaa/P-1	Stable
New York	AA+/A-1+	Stable	Aaa/P-1	Stable
Pittsburgh	AA+/A-1+	Stable	Aaa/P-1	Stable
Atlanta	AA+/A-1+	Stable	Aaa/P-1	Stable
Cincinnati	AA+/A-1+	Stable	Aaa/P-1	Stable
Indianapolis	AA+/A-1+	Stable	Aaa/P-1	Stable
Chicago	AA+/A-1+	Stable	Aaa/P-1	Stable
Des Moines	AA+/A-1+	Stable	Aaa/P-1	Stable
Dallas	AA+/A-1+	Stable	Aaa/P-1	Stable
Topeka	AA+/A-1+	Stable	Aaa/P-1	Stable
San Francisco	AA+/A-1+	Stable	Aaa/P-1	Stable

Risk Management

The fundamental business of each FHLBank is to provide a readily available, competitively-priced source of funds, in a wide range of maturities, to meet the borrowing demands of its members and housing associates. The principal sources of funds for these activities are the proceeds from the issuance of consolidated obligations and, to a lesser extent, capital and deposits from members. Lending and investing funds, and engaging in derivative transactions, can potentially expose the FHLBanks to a number of risks, including market risk and credit risk. (See *Quantitative and Qualitative Disclosures about Market Risk* for a discussion of market risk). The FHLBanks are also subject to liquidity risk, operational risk, and business risk. Each FHLBank has established policies and procedures to evaluate, manage, and control these risks, and must file periodic compliance reports with the FHFA. The FHFA has established regulations governing the risk management practices of the FHLBanks and conducts an annual on-site examination, interim on-site visits of each FHLBank and the Office of Finance, as well as off-site analyses.

Credit Risk

Advances. Each FHLBank manages its credit exposure to advances through an integrated approach that provides for the ongoing review of the financial condition of its borrowers coupled with conservative collateral and lending policies and procedures to limit its risk of loss while balancing its borrowers' needs for a reliable source of funding. Each FHLBank uses a methodology to evaluate its borrowers, based on financial, regulatory, and other qualitative information, including examination reports. Each FHLBank reviews its borrowers' financial condition on an ongoing basis using current information and makes changes to its collateral guidelines to mitigate the credit risk on advances. As of December 31, 2015, the management of each FHLBank believed it had adequate policies and procedures in place to manage its credit risk on advances effectively.

The FHLBanks protect against credit risk on advances by collateralizing all advances. Advances and other credit product obligations to an FHLBank are fully secured with eligible collateral, the value of which is discounted to protect the FHLBanks from credit loss. Eligible collateral values are determined by the market value for securities collateral, and the market value or unpaid principal balance for all loan collateral. Collateral verifications and on-site reviews are performed by the FHLBanks based on the risk profile of the borrower. At December 31, 2015, each FHLBank had rights to collateral with an estimated value greater than the related outstanding advances.

The FHLBank Act requires that FHLBanks obtain and maintain collateral from their borrowers to secure advances at the time the advances are originated or renewed. Furthermore, under the FHLBank Act, an FHLBank has a statutory lien on that FHLBank's capital stock held by its members, which serves as further collateral for the indebtedness of these members to the FHLBank. The FHLBank Act also allows FHLBanks to further protect their security position with respect to advances by allowing them to require the posting of additional collateral, whether or not such additional collateral is eligible to originate or renew an advance. The FHLBanks perfect their security interests by filing applicable financing statements or taking delivery of collateral. In addition, the FHLBank Act states that notwithstanding any other provision of law, any security interest granted to an FHLBank by any member of any FHLBank, or any affiliate of any member, is entitled to a priority over the claims and rights of any party (including any receiver, conservator, trustee, or similar lien creditor), other than claims and rights that (1) would be entitled to priority under otherwise applicable law, and (2) are held by actual bona fide purchasers for value or by actual secured parties that are secured by actual perfected security interests. Collateral arrangements will vary depending on: (1) borrower credit quality, financial condition, and performance; (2) borrowing capacity; (3) collateral availability; and (4) overall credit exposure to the borrower.

Each FHLBank establishes each borrower's borrowing capacity by determining the amount it will lend against each collateral type. Borrowers are also required to collateralize the face amount of any letters of credit issued for their benefit by an FHLBank. In addition, an FHLBank must take any steps necessary to ensure that its security interest in all collateral pledged by non-depository member institutions, such as insurance companies and housing associates, is as secure as its security interests in collateral pledged by depository member institutions.

Residential mortgage loans are the principal form of collateral for advances. Collateral eligible to secure new or renewed advances includes:

- one-to-four family and multifamily mortgage loans (delinquent for no more than 90 days) and securities representing such mortgages;
- loans and securities issued, insured, or guaranteed by the U.S. government or any U.S. government agency (for example, mortgage-backed securities issued or guaranteed by Fannie Mae, Freddie Mac, or Ginnie Mae);
- cash or deposits in the FHLBank;
- certain other collateral that is real estate-related, provided that the collateral has a readily ascertainable value and that the FHLBank can perfect a security interest in it; and
- certain qualifying securities representing undivided equity interests in eligible advance collateral.

Each FHLBank generally establishes an overall FHLBank credit limit for each borrower, which caps the amount of FHLBank credit availability to the borrower. This limit is designed to reduce an FHLBank's credit exposure to an individual borrower, while encouraging borrowers to diversify their funding sources. A borrower's total credit limit with an FHLBank includes the principal amount of outstanding advances, the face amount of outstanding letters of credit, the total exposure of the FHLBank to the borrower under any derivative contract, and the credit enhancement obligation of the borrower on mortgage loans sold to the FHLBank. Each FHLBank determines the credit limit of its borrower by evaluating a wide variety of factors, including, but not limited to, the borrower's overall creditworthiness and collateral management practices. The FHLBanks impose borrowing limits on most borrowers with a maximum ranging from 20% to 60% of a borrower's total assets. However, certain borrowers may be approved for a higher borrowing limit when it is supported by that borrower's creditworthiness and collateral.

Collateral discounts, or haircuts, used in determining lending values of the collateral, are calculated to project that the lending value of collateral securing each borrower's obligations exceeds the amount the borrower may borrow from the FHLBanks. Table 45 presents the range of collateral lending values for the blanket lien, listing, and delivery methods of pledging collateral across the FHLBanks.

Collateral lending values are determined by subtracting the collateral haircut from 100%. Certain collateral haircuts may also reflect haircuts applied to advances outstanding based on borrowers' actual financial performance. Effective lending value percentages are equal to the collateral lending value divided by the unpaid principal balance of eligible loan collateral or market value of eligible securities collateral. Average effective lending values are calculated based on the total lending value against eligible collateral for all borrowers without regard to the amount of credit extended to any particular borrower; however, individual borrower credit obligations to the FHLBanks are not cross-collateralized between borrowers.

Table 45 - Effective Lending Values by Type of Collateral for all Borrowers

	December 31, 2015	
Collateral Type	**Effective Lending Values Applied to Collateral**	**Average Effective Lending Value**
Blanket Lien		
Single-family mortgage loans(1)	30%-96%	78%
Multifamily mortgage loans	37%-87%	74%
Other U.S. government-guaranteed loans	83%-92%	87%
Home equity loans and lines of credit	5%-85%	61%
Community Financial Institutions (CFI) collateral	9%-83%	56%
Commercial real estate loans	12%-91%	68%
Other loan collateral	24%-75%	49%
Listing		
Single-family mortgage loans(1)	9%-96%	86%
Multifamily mortgage loans	38%-98%	82%
Other U.S. government-guaranteed loans	96%	96%
Home equity loans and lines of credit	2%-91%	67%
CFI collateral	15%-74%	66%
Commercial real estate loans	26%-93%	75%
Other loan collateral	0%-96%	78%
Delivery		
Cash, U.S. government, and U.S. Treasury securities	80%-100%	94%
State and local government securities	1%-99%	89%
U.S. agency securities	71%-99%	95%
U.S. agency MBS and collateralized mortgage obligations (CMOs)	55%-99%	94%
Private-label MBS and CMOs	30%-96%	85%
CFI securities	93%	93%
Commercial MBS	50%-93%	84%
Other securities	51%-97%	86%
Single-family mortgage loans(1)	10%-94%	76%
Multifamily mortgage loans	36%-87%	75%
Home equity loans and lines of credit	23%-86%	51%
CFI collateral	36%-68%	61%
Commercial real estate loans	21%-91%	73%
Other loan collateral	8%-79%	60%
Student loan securities	76%-97%	77%

(1) Includes Federal Housing Administration and Department of Veterans Affairs loans.

As of December 31, 2015, there were 96 individual FHLBank borrowers (93 FHLBank members and 3 non-member financial institutions) that each held advance balances of at least $1.0 billion. When a non-member financial institution acquires some or all of the assets and liabilities of an FHLBank member, including outstanding advances and FHLBank capital stock, an FHLBank may allow those advances to remain outstanding to that non-member financial institution. The non-member borrower would be required to meet all of that FHLBank's credit and collateral requirements, including requirements regarding creditworthiness and collateral borrowing capacity. A borrower's total credit obligation to an FHLBank could include outstanding advances, outstanding letters of credit, collateralized derivative contracts, and credit enhanced obligations on mortgage loans sold to the FHLBank. Eligible collateral values include market values for securities and the unpaid principal balance for all other collateral pledged by the blanket lien, listing, or delivery method. The collateralization ratio was 2.3 at December 31, 2015, which represents the total of these 96 individual FHLBank borrowers' eligible collateral divided by these borrowers' advances and other credit products outstanding. The collateralization ratio for all borrowers was 2.8 at December 31, 2015. However, individual borrower credit obligations to the FHLBanks are not cross-collateralized between borrowers.

Table 46 presents advances, other credit products (which primarily includes letters of credit), and collateral outstanding for borrowers with at least $1.0 billion of advances outstanding as compared to all borrowers.

Table 46 - Advances, Other Credit Products, and Collateral Outstanding
(dollars in millions)

	December 31, 2015		
	Borrowers with at Least $1.0 Billion of Advances Outstanding	All Borrowers	Percentage
Advances outstanding, at par	$ 442,620	$ 631,233	70.1%
Other credit products outstanding, at par	$ 74,459	$ 120,990	61.5%
Collateral outstanding	$ 1,168,582	$ 2,120,374	55.1%

Based on the financial condition of the borrower, each FHLBank classifies each borrower by the method of pledging collateral into one of three collateral categories: (1) blanket lien status; (2) listing (specific identification) status; or (3) delivery (possession) status. The blanket lien status is the least restrictive collateral status, and is generally assigned to lower risk institutions pledging collateral. Under the blanket lien status, an individual FHLBank allows a borrower to retain possession of eligible collateral pledged to that FHLBank, provided the borrower executes a written security agreement and agrees to hold the collateral for the benefit of that FHLBank. Origination of new advances or renewal of advances must only be supported by certain eligible collateral categories. A blanket lien is typically accepted by the FHLBanks only for loan collateral; most securities collateral must be delivered to an FHLBank, or an FHLBank-approved third-party custodian, and pledged for the benefit of that FHLBank.

An FHLBank may require borrowers to provide a detailed listing of eligible advance collateral being pledged to the FHLBank due to their high usage of FHLBank credit products, the type of assets being pledged, or the credit condition of the borrower. Under the listing status, the borrower retains physical possession of specific collateral pledged to an FHLBank, but the borrower provides listings of loans pledged to its FHLBank with detailed loan information, such as loan amount, payments, maturity date, interest rate, loan-to-value, collateral type, and FICO® scores. From a borrower's perspective, the benefit of listing collateral in lieu of a blanket lien security agreement is that, in some cases, the discount or haircut applicable to that collateral may be lower than that for blanket lien collateral. From an FHLBank's perspective, the benefit of listing collateral is that it provides more detailed loan information to arrive at a more precise valuation.

Under the delivery status, an FHLBank requires the borrower to place physical possession of eligible collateral with the FHLBank or a third-party custodian to sufficiently secure all outstanding obligations. Typically, an FHLBank would take physical possession or control of collateral if the financial condition of the borrower was deteriorating or if the borrower exceeded certain credit product usage triggers. However, to ensure its position as a first-priority secured creditor, an FHLBank will generally require insurance company borrowers to place physical possession of all pledged eligible collateral with the FHLBank or deposit it with a custodian or control agent. Delivery of collateral may also be required if there is a regulatory action against the borrower by its regulator that would indicate inadequate controls or other conditions that would be of concern to that FHLBank.

Table 47 presents information on a combined basis regarding the type of collateral securing advances and other credit products outstanding.

Table 47 - Type of Collateral Securing Advances and Other Credit Products Outstanding
(dollars in millions)

	December 31, 2015							
	Blanket Lien		Listing		Delivery		Total	
Collateral Type	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage
Single-family mortgage loans (1)	$ 421,394	19.9%	$ 694,219	32.7%	$ 17,774	0.8%	$ 1,133,387	53.4%
Commercial real estate loans	274,448	12.9%	82,884	3.9%	24,132	1.1%	381,464	17.9%
Multifamily mortgage loans	60,773	2.9%	104,309	5.0%	9,123	0.4%	174,205	8.3%
Home equity loans and lines of credit	83,214	3.9%	84,559	4.0%	691	—%	168,464	7.9%
U.S. agency MBS and CMOs	—	N/A	—	N/A	100,154	4.7%	100,154	4.7%
Other real estate loans	41,740	2.0%	6,092	0.3%	2,107	0.1%	49,939	2.4%
CFI loans	35,006	1.7%	2,305	0.1%	197	—%	37,508	1.8%
Commercial MBS	—	N/A	—	N/A	28,766	1.4%	28,766	1.4%
U.S. agency securities (excluding MBS)	—	N/A	—	N/A	20,137	0.9%	20,137	0.9%
Private-label MBS and CMOs	—	N/A	—	N/A	4,142	0.2%	4,142	0.2%
Other	544	—%	4,246	0.2%	17,418	0.9%	22,208	1.1%
Total collateral	$ 917,119	43.3%	$ 978,614	46.2%	$ 224,641	10.5%	$ 2,120,374	100.0%

(1) Includes Federal Housing Administration and Department of Veterans Affairs loans.
N/A Collateral is not pledged using this pledging method.

The FHLBank Act also permits borrowers that qualify as a Community Financial Institution (CFI) to pledge certain CFI-specific collateral to the extent that its FHLBank accepts those loans as collateral for advances. The FHLBank Act, as amended by the Housing Act, defines CFIs as depository institutions insured by the FDIC with average total assets over the preceding three-year period of less than $1.0 billion (the average total asset cap), with the average total asset cap adjusted annually for inflation. The average total asset cap for 2015 was $1.123 billion and the average total asset cap for 2016 is $1.128 billion.

The FHLBanks that accept CFI-specific collateral mitigate the potential increased credit risk through higher haircuts (lower lending values) on that collateral as presented in Table 45. CFI-specific collateral consists of small business, small farm, and small agri-business loans. Furthermore, the FHFA provides the FHLBanks with regulatory authority to receive community development loans as collateral for advances from CFI members.

Member Failures. The financial condition of all members and housing associates is closely monitored for compliance with financial criteria as set forth in each FHLBank's credit policies. During the year ended December 31, 2015, no FHLBank incurred any credit loss on any of its advances, including advances to failed borrowers. During the same period, 7 of the 8 FDIC-insured institutions that failed were members of the FHLBanks with approximately $549 million of advances outstanding at the time of the failure, all of which were either assumed by another member or repaid by the FDIC.

All extensions of credit by the FHLBanks to members are secured by eligible collateral. However, if a member were to default, and the value of the collateral pledged by the member declined to a point such that an FHLBank was unable to realize sufficient value from the pledged collateral to cover the member's obligations, and an FHLBank was unable to obtain additional collateral to make up for the reduction in value of that collateral, that FHLBank could incur losses. A default by a borrower with significant obligations to an FHLBank could result in significant financial losses, which would adversely affect the FHLBank's results of operations and financial condition.

Investments. The FHLBanks are subject to credit risk on investments consisting of investment securities, interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold. These investments are generally transacted with government agencies and large financial institutions that are considered by an individual FHLBank to be of investment quality. FHFA regulation defines investment quality as a determination by an FHLBank, with respect to a security, that there is adequate financial backing so that full and timely payment of principal and interest on such a security is expected, and there is minimal risk that the timely payment of principal and interest would not occur because of adverse changes in economic and financial conditions during the projected life of the security.

The FHLBanks maintain short-term investment portfolios, which may provide funds to meet the credit needs of their members and to maintain liquidity. Within this portfolio of short-term investments, the FHLBanks have unsecured credit exposure on certain investments.

The FHLBanks maintain long-term investment portfolios primarily to provide additional liquidity and to earn interest income. These investments generally provide the FHLBanks with higher returns than those available on short-term investments. Within this portfolio of long-term investments, the FHLBanks are primarily subject to credit risk related to private-label mortgage-backed securities that are either directly or indirectly supported by underlying mortgage loans.

Regulatory Restrictions on Investments. To minimize credit risk on investments, the FHLBanks are prohibited by FHFA regulations from investing in any of the following security types:

- 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 at low-income persons or communities;
- instruments issued by non-U.S. entities, other than those issued by U.S. branches and agency offices of foreign commercial banks (e.g., federal funds);
- debt instruments that are not investment quality, other than certain investments targeted at low-income persons or communities and instruments that became less than investment quality after their purchase by the FHLBank;
- whole mortgages or other whole loans, or interests in mortgages or loans, other than:
    - whole mortgages or loans acquired under an FHLBank's Acquired Member Asset program;
    - certain investments targeted to low-income persons or communities;
    - certain marketable direct obligations of state, local, or tribal government units or agencies that are investment quality;
    - mortgage-backed securities (which include agency and private-label pools of commercial and residential mortgage loans), or asset-backed securities collateralized by manufactured housing loans or home equity loans that meet the definition of the term "securities" under the Securities Act of 1933, as amended; and
    - certain foreign housing loans authorized under section 12(b) of the FHLBank Act;
- residual interest and interest accrual classes of securities;
- interest-only and principal-only securities;
- mortgage-backed securities or eligible asset-backed securities that on the trade date are at rates equal to their contractual cap, with average lives that vary more than six years under an assumed instantaneous rate change of 300 basis points, unless the instrument qualifies as an Acquired Member Asset; and
- foreign currency or commodity positions.

Investment Quality and Ratings. The FHLBanks reduce the credit risk by investing in investment quality securities. The FHLBanks consider a variety of credit quality factors when analyzing potential investments, including collateral performance, marketability, asset class or sector considerations, local and regional economic conditions, credit ratings based on the nationally recognized statistical rating organization(s), and/or the financial health of the underlying issuer. Table 48 presents the credit rating of the investment securities held by the FHLBanks as of December 31, 2015 and 2014, using the lowest long-term credit rating for each security owned by an individual FHLBank based on the nationally recognized statistical rating organization(s) used by that FHLBank. The internal ratings of an individual FHLBank may differ from those obtained from the nationally recognized statistical rating organization(s) and other FHLBank internal ratings.

Table 48 - Investment Ratings
(dollars in millions)

	December 31, 2015(1)(2)						
Carrying Value	**Triple-A**	**Double-A**	**Single-A**	**Triple-B**	**Below Triple-B**	**Unrated**	**Total**
Interest-bearing deposits	$ —	$ 1	$ 1,800	$ 35	$ —	$ —	$ 1,836
Securities purchased under agreements to resell	6,125	29,182	1,575	7,500	500	2,945	47,827
Federal funds sold	—	17,491	23,446	1,441	—	2	42,380
Total investment securities by major security type							
Non-mortgage backed securities							
U.S. Treasury obligations	—	1,310	—	—	—	—	1,310
Certificates of deposit	—	600	100	—	—	—	700
Other U.S. obligations	—	7,023	—	—	—	—	7,023
GSE and Tennessee Valley Authority obligations	—	28,305	—	—	—	—	28,305
State or local housing agency obligations	1,748	1,723	439	—	—	—	3,910
Federal Family Education Loan Program ABS	15	5,284	—	—	—	—	5,299
Other	890	103	372	—	—	49	1,414
Total non-mortgage-backed securities	2,653	44,348	911	—	—	49	47,961
Mortgage-backed securities							
Other U.S. obligations single-family MBS	248	14,586	—	—	—	—	14,834
Other U.S. obligations multifamily MBS	—	767	—	—	—	—	767
GSE single-family MBS	—	57,979	15	—	9	—	58,003
GSE multifamily MBS	464	45,703	—	—	—	—	46,167
Private-label residential MBS	10	39	238	1,231	12,064	32	13,614
Manufactured housing loan ABS	—	—	86	—	—	—	86
Home equity loan ABS	1	5	98	30	75	—	209
Total mortgage-backed securities	723	119,079	437	1,261	12,148	32	133,680
Total investment securities	3,376	163,427	1,348	1,261	12,148	81	181,641
Total investments	$ 9,501	$ 210,101	$ 28,169	$ 10,237	$ 12,648	$ 3,028	$ 273,684

Carrying Value	December 31, 2014(2)(3) Triple-A	Double-A	Single-A	Triple-B	Below Triple-B	Unrated	Total
Interest-bearing deposits	$ —	$ 1	$ 1,568	$ —	$ —	$ —	$ 1,569
Securities purchased under agreements to resell	2,536	10,993	3,250	4,450	710	3,480	25,419
Federal funds sold	—	14,773	35,861	1,814	—	325	52,773
Total investment securities by major security type							
Non-mortgage backed securities							
U.S. Treasury obligations	—	526	—	—	—	—	526
Certificates of deposit	—	950	756	—	—	—	1,706
Other U.S. obligations	—	7,404	118	—	—	—	7,522
GSE and Tennessee Valley Authority obligations	—	29,974	—	—	—	—	29,974
State or local housing agency obligations	1,744	1,731	454	39	—	2	3,970
Federal family education loan program ABS	12	6,209	—	—	—	—	6,221
Other	807	105	411	—	—	34	1,357
Total non-mortgage-backed securities	2,563	46,899	1,739	39	—	36	51,276
Mortgage-backed securities							
Other U.S. obligations single-family MBS	284	14,034	—	—	—	—	14,318
Other U.S. obligations multifamily MBS	—	988	—	—	—	—	988
GSE single-family MBS	—	68,383	19	—	12	—	68,414
GSE multifamily MBS	466	36,607	—	—	—	—	37,073
Private-label residential MBS	20	114	324	1,542	16,013	27	18,040
Manufactured housing loan ABS	—	—	105	—	—	—	105
Home equity loan ABS	1	7	109	35	90	—	242
Total mortgage-backed securities	771	120,133	557	1,577	16,115	27	139,180
Total investment securities	3,334	167,032	2,296	1,616	16,115	63	190,456
Total investments	$ 5,870	$ 192,799	$ 42,975	$ 7,880	$ 16,825	$ 3,868	$ 270,217

(1) Does not reflect any changes in ratings, outlook, or watch status occurring after December 31, 2015.
(2) Investment amounts represent the carrying value and do not include related accrued interest.
(3) Does not reflect any changes in ratings, outlook, or watch status occurring after December 31, 2014.

Long-term Investments. Within the portfolio of long-term investments, the FHLBanks are primarily subject to credit risk related to private-label mortgage-backed securities that are either directly or indirectly supported by underlying mortgage loans. The FHLBanks invested in private-label mortgage-backed securities, which consisted of private-label residential MBS and private-label commercial MBS, manufactured housing loan ABS, and home equity loan ABS. Each private-label mortgage-backed security may contain one or more forms of credit protection/enhancements, including, but not limited to, (1) guarantee of principal and interest, (2) subordination, (3) over-collateralization and excess interest, and (4) insurance wrap. Credit enhancement achieved through subordination features results in the subordination of payments to junior classes to support cash flows received by senior classes held by investors such as the FHLBanks.

Although the FHLBanks invested in private-label mortgage-backed securities that at the date of purchase were substantially all rated triple-A, many of these securities have incurred credit losses based on economic conditions and housing market trends.

Current credit enhancement percentages reflect the ability of subordinated classes of securities to absorb principal losses and interest shortfalls before the senior classes held by the FHLBanks are affected (i.e., the losses, expressed as a percentage of the outstanding principal balances, that could be incurred in the underlying loan pools before the securities held by the FHLBanks would be affected, assuming that all of those losses occurred on the measurement date). Depending on the timing and amount of losses in the underlying loan pools, it is possible that the senior classes held by the FHLBanks could have losses in scenarios where the cumulative loan losses do not exceed the current credit enhancement percentage.

Table 49 presents collateral performance and credit enhancement information related to private-label mortgage-backed securities at December 31, 2015. No FHLBank has purchased private-label mortgage-backed securities since 2008.

Table 49 - Credit Ratings of Private-Label Mortgage-Backed Securities at December 31, 2015
(dollars in millions)

	Total	Prime(1)	Alt-A(1)(2)	Subprime(1)
Unpaid Principal Balance (UPB) by credit rating(3)				
Triple-A	$ 11	$ —	$ 10	$ 1
Double-A	44	29	10	5
Single-A	424	105	124	195
Triple-B	1,269	979	240	50
Double-B	1,353	941	366	46
Single-B	1,523	641	813	69
Triple-C	5,130	979	4,043	108
Double-C	1,590	423	840	327
Single-C	442	150	176	116
Single-D	4,770	2,328	2,425	17
Unrated	34	30	3	1
Total	$ 16,590	$ 6,605	$ 9,050	$ 935
Amortized cost	$ 14,191	$ 5,893	$ 7,610	$ 688
Gross unrealized losses(4)	(561)	(235)	(264)	(62)
Fair value	14,524	6,068	7,669	787
Credit losses(5)				
Total OTTI	$ (36)	$ (8)	$ (28)	$ —
AOCI(6)	10	(5)	15	—
Credit losses(7)	$ (26)	$ (13)	$ (13)	$ —
Weighted-average percentage				
Fair value to UPB	87.5%	91.9%	84.7%	84.1%
Original credit support(8)	18.3%	10.2%	22.2%	38.4%
Credit support(9)	8.8%	6.6%	8.8%	25.4%
Collateral delinquency(10)	15.5%	10.8%	18.2%	23.7%

(1) The FHLBanks classify securities as prime, Alt-A, and subprime based on the originator's classification at the time of origination or based on classification by a nationally recognized statistical rating organization upon issuance of the securities.
(2) The FHLBanks held a total of $1,705 million in Alt-A option adjustable-rate mortgages, of which $973 million are in a gross unrealized loss position based on their unpaid principal balance at December 31, 2015.
(3) Represents the lowest rating available for each security owned by an individual FHLBank based on the nationally recognized statistical rating organization(s) used by that FHLBank. The internal ratings of an individual FHLBank may differ from those obtained from the nationally recognized statistical rating organization(s) and other FHLBank internal ratings.
(4) Represents total gross unrealized losses including non-credit-related other-than-temporary impairment recognized in AOCI. The unpaid principal balance and amortized cost of private-label mortgage-backed securities in a gross unrealized loss position was $8,335 million and $7,549 million at December 31, 2015.
(5) The credit losses presented are for the year ended December 31, 2015.
(6) Represents the net amount of other-than-temporary impairment losses reclassified to/(from) AOCI.
(7) Does not include $52 million of OTTI charges related to AFS private-label mortgage-backed securities for the year ended December 31, 2015, that the FHLBank of Seattle intended to sell and subsequently sold.
(8) Original weighted-average credit support is based on the credit support at the time of issuance and is determined based on the unpaid principal balance of the individual securities in the category and their respective original credit support.
(9) Weighted-average credit support is based on the credit support as of December 31, 2015, and is determined based on the unpaid principal balance of the individual securities in the category and their respective credit support as of December 31, 2015.
(10) Weighted-average collateral delinquency rate is determined based on the underlying loans that are 60 days or more past due and is determined based on the unpaid principal balance of the individual securities in the category and their respective delinquencies.

Monoline Bond Insurance. Certain FHLBank investment securities portfolios include a limited number of investments that are insured by monoline bond insurers. The monoline bond insurance on these investments guarantees the timely payment of principal and interest if these payments cannot be satisfied from the cash flows of the underlying mortgage collateral.

The monoline bond insurers continue to be subject to adverse ratings, rating downgrades, and weak financial performance measures. Adverse ratings or rating downgrades imply an increased risk that the monoline bond insurer will fail to fulfill its obligations to reimburse the insured investor for claims made under the related insurance policies. There are five monoline bond insurers that insure the affected FHLBanks' investment securities. Of the five monoline bond insurers, the financial guarantee from Assured Guaranty Municipal Corp. is considered sufficient to cover all future claims and therefore excluded from the burnout period analysis. Conversely, the key burnout period for monoline bond insurers Financial Guaranty Insurance Company and Syncora Guarantee Inc. are not considered applicable due to regulatory intervention that has suspended all claims, and the affected FHLBanks have placed no reliance on these monoline insurers. For the remaining monoline bond insurers, the affected FHLBanks established burnout periods ending on December 31, 2016 for MBIA Insurance Corp., and on December 31, 2019, for Ambac Assurance Corp. In addition, Ambac Assurance Corp. reimbursements are limited to 45% of new claims during the burnout period. The FHLBanks monitor the financial condition of these monoline bond insurers on an ongoing basis, and, as facts and circumstances change, the burnout period could significantly change. (See *Critical Accounting Estimates - OTTI for Investment Securities* for information regarding the FHLBanks' processes for evaluating monoline bond insurance for purposes of OTTI analysis.)

As of December 31, 2015, total monoline bond insurance coverage was $337 million, of which $243 million represents the FHLBanks' private-label MBS covered by the monoline bond insurance that the FHLBanks were relying on at December 31, 2015, for modeling cash flows. Of the $243 million, 85.2% represents subprime loans and 14.8% represents Alt-A loans. The FHLBanks classify securities as prime, Alt-A, and subprime based on the originator's classification at the time of origination or based on classification by a nationally recognized statistical rating organization upon issuance of the securities.

Short-term Investments. The FHLBanks maintain short-term investment portfolios, which may provide funds to meet the credit needs of their members and to maintain liquidity. The FHLBank Act and FHFA regulations set liquidity requirements for the FHLBanks, and an individual FHLBank's board of directors may also adopt additional liquidity policies. In addition, each FHLBank maintains a contingency liquidity plan in the event of operational disruptions at either the FHLBanks or the Office of Finance. (See *Liquidity and Capital Resources* for a discussion of the FHLBanks' liquidity management.)

Within the portfolio of short-term investments, the FHLBanks are subject to credit risk from unsecured credit exposures with private counterparties. Each FHLBank manages its own credit risk independently. The FHLBanks' unsecured credit investments have maturities ranging between overnight and nine months, and generally include the following types:

- *Interest-bearing deposits.* Primarily consists of unsecured deposits that earn interest.
- *Federal funds sold.* Unsecured loans of reserve balances at the Federal Reserve Banks between financial institutions that are made on an overnight and term basis.
- *Commercial paper.* Unsecured debt issued by corporations, typically for the financing of accounts receivable, inventories, and meeting short-term liabilities.
- *Certificates of deposit.* Unsecured negotiable promissory notes issued by banks and payable to the bearer on demand.

Table 50 presents the FHLBanks' unsecured credit exposure with private counterparties by investment type. At December 31, 2015, the FHLBanks had aggregate unsecured credit exposure from investments of $1 billion or more to each of 17 private counterparties. The aggregate unsecured credit exposure to these counterparties represented 80.3% of the FHLBanks' total unsecured investment credit exposure to private counterparties. The unsecured investment credit exposure presented in Table 50 does not reflect the average or maximum exposure during the period, as the balances presented reflect the balances at period end.

Table 50 - Unsecured Credit Exposure by Investment Type
(dollars in millions)

Carrying Value(1)(2)	December 31, 2015	December 31, 2014
Interest-bearing deposits	$ 1,835	$ 1,568
Federal funds sold	42,380	52,773
Certificates of deposit	700	1,706
Total	$ 44,915	$ 56,047

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(1) Excludes unsecured investment credit exposure to U.S. government, U.S. government agencies, government instrumentalities, government-sponsored enterprises, and supranational entities, and does not include related accrued interest.
(2) May include unsecured investment credit exposure to members. (See *Security Ownership of Certain Beneficial Owners and Certain Relationships and Related Transactions* for further discussion of related-party transactions.)

Each FHLBank actively monitors its credit exposures and the credit quality of its counterparties, including an assessment of each counterparty's financial performance, capital adequacy, sovereign support, and the current market perceptions of the counterparties. General macroeconomic, political, and market conditions may also be considered when deciding on unsecured exposure. As a result, the FHLBanks may limit or suspend existing exposures.

FHFA regulations include limits on the amount of unsecured credit an individual FHLBank may extend to a counterparty or to a group of affiliated counterparties. This limit is based on a percentage of eligible capital and the counterparty's overall credit rating. Under these regulations, the level of eligible capital is determined as the lesser of an individual FHLBank's total regulatory capital or the eligible amount of Tier 1 capital or regulatory capital of the counterparty. The eligible amount of capital is then multiplied by a stated percentage. The percentage that an FHLBank may offer for term extensions of unsecured credit ranges from 1% to 15% based on the counterparty's credit rating. The calculation of term extensions of unsecured credit includes on-balance sheet transactions, off-balance sheet commitments, and derivative transactions. (See *Credit Risk - Derivative Counterparties* for additional information related to derivatives exposure.)

FHFA regulation also permits the FHLBanks to extend additional unsecured credit for sales of federal funds with a maturity of one day or less and sales of federal funds subject to a continuing contract that renews automatically. An FHLBank's total unsecured exposure to a counterparty may not exceed twice the regulatory limit for term exposures, or a total of 2% to 30% of the eligible amount of capital, based on the counterparty's credit rating. As of December 31, 2015, each of the FHLBanks was in compliance with the regulatory limits established for unsecured credit.

The FHLBanks are prohibited by FHFA regulation from investing in financial instruments issued by non-U.S. entities, other than those issued by U.S. branches and agency offices of foreign commercial banks. The FHLBanks' unsecured credit exposures to U.S. branches and agency offices of foreign commercial banks include the risk that, as a result of political or economic conditions in a country, the counterparty may be unable to meet its contractual repayment obligations. The FHLBanks' unsecured credit exposures to domestic counterparties and U.S. subsidiaries of foreign commercial banks include the risk that these counterparties have extended credit to foreign counterparties. As of December 31, 2015, an FHLBank held full faith and credit U.S. guaranteed securities with foreign issuers totaling approximately $474 million. Other than these investments, the FHLBanks are in compliance with the regulation as of December 31, 2015.

As of December 31, 2015, the FHLBanks' unsecured investment credit exposure to U.S. branches and agency offices of foreign commercial banks was comprised of federal funds sold and certificates of deposit. As of December 31, 2015, 71.2% of the FHLBanks' unsecured investments in federal funds sold and all of the FHLBanks' unsecured investment in certificates of deposit were to U.S. branches and agency offices of foreign commercial banks.

Table 51 presents the lowest long-term credit ratings of the unsecured investment credit exposures presented by the domicile of the counterparty or the domicile of the counterparty's immediate parent for U.S. branches and agency offices of foreign commercial banks based on the nationally recognized statistical rating organization(s) used by the individual FHLBank holding the investment. This table does not reflect the foreign sovereign government's credit rating.

Table 51 - Ratings of Unsecured Investment Credit Exposure by Domicile of Counterparty
(dollars in millions)

	December 31, 2015(1)				
	Investment Grade				
Carrying Value(2)	**Double-A**	**Single-A**	**Triple-B**	**Unrated**	**Total**
Domestic	$ 5,164	$ 6,426	$ 1,476	$ 2	$ 13,068
U.S. subsidiaries of foreign commercial banks	—	954	—	—	954
Total domestic and U.S. subsidiaries of foreign commercial banks	5,164	7,380	1,476	2	14,022
U.S. branches and agency offices of foreign commercial banks					
Canada	3,166	5,316	—	—	8,482
Australia	5,709	—	—	—	5,709
Netherlands	—	5,620	—	—	5,620
Finland	3,852	—	—	—	3,852
Germany	—	2,425	—	—	2,425
Norway	—	2,340	—	—	2,340
Sweden	200	1,440	—	—	1,640
Japan	—	375	—	—	375
United Kingdom	—	250	—	—	250
France	—	200	—	—	200
Total U.S. branches and agency offices of foreign commercial banks	12,927	17,966	—	—	30,893
Total unsecured investment credit exposure	$ 18,091	$ 25,346	$ 1,476	$ 2	$ 44,915

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(1) Does not reflect any changes in ratings, outlook, or watch status occurring after December 31, 2015. The ratings presented in this table represent the lowest long-term rating available for each security owned by an individual FHLBank, based on the nationally recognized statistical rating organization(s) used by that FHLBank. The internal ratings of an individual FHLBank may differ from those obtained from the nationally recognized statistical rating organization(s) and other FHLBank internal ratings.

(2) Excludes unsecured investment credit exposure to U.S. government, U.S. government agencies, government instrumentalities, government-sponsored enterprises, and supranational entities, and does not include related accrued interest.

Table 52 presents the contractual maturity of the FHLBanks' unsecured investment credit exposure by the domicile of the counterparty or the domicile of the counterparty's immediate parent for U.S. branches and agency offices of foreign commercial banks. The FHLBanks also reduce the credit risk on investments by generally investing in investments that have short-term maturities. At December 31, 2015, 87.2% of the carrying value of the total unsecured investments held by the FHLBanks had overnight maturities.

Table 52 - Contractual Maturity of Unsecured Investment Credit Exposure by Domicile of Counterparty
(dollars in millions)

	December 31, 2015			
Carrying Value(1)	**Overnight**	**Due 2 days through 30 days**	**Due 31 days through 90 days**	**Total**
Domestic	$ 12,416	$ 652	$ —	$ 13,068
U.S. subsidiaries of foreign commercial banks	954	—	—	954
Total domestic and U.S. subsidiaries of foreign commercial banks	13,370	652	—	14,022
U.S. branches and agency offices of foreign commercial banks				
Canada	7,366	916	200	8,482
Australia	4,283	1,326	100	5,709
Netherlands	4,454	1,166	—	5,620
Finland	3,126	726	—	3,852
Germany	2,425	—	—	2,425
Norway	1,990	350	—	2,340
Sweden	1,440	100	100	1,640
Japan	375	—	—	375
United Kingdom	150	—	100	250
France	200	—	—	200
Total U.S. branches and agency offices of foreign commercial banks	25,809	4,584	500	30,893
Total unsecured investment credit exposure	$ 39,179	$ 5,236	$ 500	$ 44,915

(1) Excludes unsecured investment credit exposure to U.S. government, U.S. government agencies, government instrumentalities, government-sponsored enterprises, and supranational entities and does not include related accrued interest.

Mortgage Loans Held for Portfolio. The FHFA's Acquired Member Asset regulation permits the FHLBanks to purchase and hold specified mortgage loans from their members. Each FHLBank has established or participated in the Acquired Member Asset programs such as the MPF Program and MPP as services to their members. Members and eligible housing associates may apply to become a participating financial institution (PFI) of their respective FHLBank. The mortgage loans purchased under these programs may carry more credit risk than advances, even though the respective member or housing associate provides credit enhancement and bears a portion of the credit risk.

An FHLBank must hold risk-based capital against acquired member assets or pools of assets based on the applicable percentage required by the FHFA. This percentage is determined by the credit rating of those assets or pools of assets after taking into account any credit enhancements on those assets. However, neither the PFI's credit enhancements nor the mortgage loans are rated by the rating agencies. The regulation requires that the credit rating must be determined by a formal rating from a nationally recognized statistical rating organization, or using a model from a nationally recognized statistical rating organization approved by the FHFA to establish an implied credit rating standard, or other similar standards. All of the mortgage loans acquired under these programs that are not government-guaranteed or -insured are credit-enhanced by the PFI to a level at least equivalent to an investment-grade rating in accordance with the FHFA's regulation.

Management at each FHLBank believes that it has adequate policies and procedures in place to manage credit risk on mortgage loans appropriately. At December 31, 2015 and 2014, each FHLBank that is currently participating or previously participated in the Acquired Member Asset programs has established loan loss allowances under each program. (See *Note 11 - Allowance for Credit Losses* to the accompanying combined financial statements for additional information about mortgage loan credit quality indicators, allowance for credit losses, and delinquency statistics by the Acquired Member Asset program and type of loan.)

Table 53 presents the comparison of MPF and MPP products at December 31, 2015. A variety of MPF products have been developed to meet the differing needs of PFIs with different risk-sharing characteristics as summarized in Table 53. While the MPP operates with a single structure, it also includes Federal Housing Administration (FHA) insured mortgage loans.

Table 53 - MPP and MPF Product Comparison at December 31, 2015

Product Name	FHLBank First Loss Account/Lender Risk Account Size	PFI Credit Enhancement Description	Credit Enhancement Fee to PFI(1)	Credit Enhancement Fee Offset(2)	Servicing Fee to PFI
MPF Original	3 to 6 basis points; added each year based on the unpaid balance	Equivalent to double-A	7 to 11 basis points/year-paid monthly	No	25 basis points/year
MPF 100	100 basis points; fixed based on the size of the loan pool at closing	Equivalent to double-A including First Loss Account	7 to 10 basis points/year-paid monthly; performance-based after 2 or 3 years	Yes - after first 2 to 3 years	25 basis points/year
MPF 125	100 basis points; fixed based on the size of the loan pool at closing	Equivalent to double-A including First Loss Account	6 to 10 basis points/year-paid monthly; performance-based	Yes	25 basis points/year
MPF Plus	An agreed-upon amount not less than expected losses	0 to 20 basis points after First Loss Account and SMI, equivalent to double-A	13 to 14 basis points/year in total, with a varying split between performance-based (delayed for 1 year) and a fixed rate; all paid monthly	Yes	25 basis points/year
MPF 35 (a variation of MPF Plus)	An agreed-upon amount not less than expected losses	Equivalent to double-A including First Loss Account	9 to 14 basis points/year in total, with a varying split between performance-based (delayed for 1 year) and a fixed rate; all paid monthly	Yes	25 basis points/year
MPF Government(3)	N/A	N/A - Unreimbursed servicing expenses	N/A	N/A	44 basis points/year plus 2 basis points/ year
MPF Xtra(4)	N/A	N/A	N/A	N/A	25 basis points/year
MPF Direct(5)	N/A	N/A	N/A	N/A	N/A
MPF Government MBS(6)	N/A	N/A - Unreimbursed servicing expenses	N/A	N/A	Based on Note Rate
MPP	30 to 175 basis points; based on pool risk factors and expected losses	After Lender Risk Account to at least triple-B	N/A	N/A	25 basis points/year
MPP FHA	N/A	N/A - Unreimbursed servicing expenses	N/A	N/A	44 basis points/year

(1) For the FHLBank of Des Moines, the credit enhancement fees on certain MPF products differ from those listed above as follows:
- MPF Original: 8 to 11 basis points/year-paid monthly
- MPF 100: 7 to 11 basis points/year-paid monthly; performance-based after three years
- MPF Plus: 0 to 8.5 basis points/year-plus 0 to 10 basis points/year; performance-based (delayed for one year); all fees are paid monthly

(2) Future payouts of performance-based credit enhancement fees are reduced when losses are allocated to the First Loss Account.
(3) For master commitments issued prior to February 2, 2007, the PFI is paid a monthly government loan fee equal to 0.02% (2 basis points) annually based on the month-end outstanding aggregate principal balance of the master commitment, which is in addition to the customary 0.44% (44 basis points) annual servicing fee that continues to apply for master commitments issued after February 1, 2007, and that is retained by the PFI on a monthly basis, based on the outstanding aggregate principal balance of the MPF Government loans.
(4) MPF loans acquired under the MPF Xtra product are concurrently sold to Fannie Mae and are not retained in an MPF FHLBank's portfolio.
(5) MPF loans acquired under the MPF Direct product are concurrently sold to third party investors and are not retained in an MPF FHLBank's portfolio.
(6) MPF loans acquired under the MPF Government MBS product are intended to be included in FHLBank of Chicago's held-for-sale portfolio for a short period of time until pooled into Ginnie Mae mortgage-backed securities.

MPF Loans - Loss Allocation. Credit losses on conventional MPF loans held for portfolio not absorbed by the borrower's equity in the mortgaged property, property insurance, or primary mortgage insurance (PMI) are allocated for each master commitment between an MPF FHLBank and the PFI as follows:

- First, losses are recovered by withholding performance-based credit enhancement fees. The PFI is paid a monthly credit enhancement fee for managing credit risk on the mortgage loans. In certain cases, the credit enhancement fees are performance-based, which provides incentive to the PFI to minimize credit losses on MPF loans. These fees may be withheld to recover losses incurred by an MPF FHLBank for each master commitment, if any, up to the First Loss Account.

- Second, up to an agreed-upon amount to the First Loss Account maintained by an MPF FHLBank. The First Loss Account functions as a tracking mechanism for determining the point in which a PFI's credit enhancement amount would cover the next layer of losses. An MPF FHLBank's First Loss Account exposure varies by MPF loan product type.

- Third, credit losses in excess of the First Loss Account, if any, to the PFI under its credit enhancement obligation, up to the credit enhancement amount. The credit enhancement amount may consist of a direct liability of the PFI to pay credit losses up to a specified amount, a contractual obligation of the PFI to provide supplemental mortgage insurance (SMI), or a combination of both.

- Fourth, any remaining unallocated losses are absorbed by an MPF FHLBank.

An MPF FHLBank's share of credit losses is based on its respective participation interest in the entire master commitment. An MPF FHLBank's credit risk on MPF loans is the potential for financial loss due to borrower default or depreciation in the value of the real estate collateral securing the MPF loan, offset by the PFI's credit enhancement amount. The PFI is required to pledge collateral to secure any portion of its credit enhancement amount that is a direct obligation.

The MPF FHLBanks also face credit risk through potential losses on conventional MPF loans to the extent that those losses are not recoverable from PFIs, and with respect to MPF Government loans, amounts not recoverable from the applicable government agency, servicer, or PFI, as applicable. The outstanding balance of MPF loans exposed to credit losses that are not recoverable from these sources was approximately $22.7 billion and $23.8 billion at December 31, 2015 and 2014. The MPF FHLBanks' actual credit exposure is less than these amounts because the borrower's equity, which represents the fair value of underlying property in excess of the outstanding MPF loan balance, has not been considered. The MPF FHLBanks require PMI for those loans with a loan-to-value ratio over 80% at origination. If the original value of the real estate collateral securing an MPF loan does not decline, then the principal paydowns will lower the loan-to-value ratio over the life of the loan.

MPF Loans - Setting Credit Enhancements. The type of the credit enhancement fee depends on the product selected; however, no credit enhancement fee is payable nor does the PFI have any credit enhancement amount under the MPF Xtra, MPF Direct, MPF Government, and MPF Government MBS products. A model-based rating methodology (based on a nationally recognized statistical rating organization's model) is used to determine the required credit enhancement amount, which is calculated to equal the difference between the amount needed for the master commitment to have a rating equivalent to a double-A rated mortgage-backed security and an MPF FHLBank's initial First Loss Account exposure. An MPF FHLBank determines its First Loss Account exposure by taking the initial First Loss Account and reducing it by the estimated value of any performance-based credit enhancement fees that would be payable to the PFI.

The MPF products were designed to allow for periodic resets of the credit enhancement amount for each master commitment, and of the First Loss Account for each master commitment for certain products, because the amount of credit enhancement necessary to maintain an FHLBank's risk of loss equivalent to the losses of an investor in a double-A rated mortgage-backed security for any master commitment is usually reduced over time. Under the MPF Program, the PFI's credit enhancement amount may take the form of a contingent, performance-based credit enhancement fee as well as the credit enhancement amount (which is a direct liability to pay credit losses or the requirement for the PFI to pay for an SMI policy insuring a portion of the credit losses).

MPP Loans - Loss Allocation. Each FHLBank participating in the MPP is exposed to credit risk on loans purchased from members through its MPP. Like the MPF Program, MPP is governed by the regulation of the Acquired Member Asset program. Mortgage loans purchased from PFIs under this program also must carry sufficient credit enhancements to provide a credit risk exposure equivalent to no less than triple-B rated assets based on a model-based rating methodology (based on a nationally recognized statistical rating organization's model) at the time of purchase. For FHA-insured loans, MPP FHLBanks believe they bear no credit risk on purchased FHA loans, and therefore do not require either a Lender Risk Account or SMI coverage for these U.S. government-insured loans.

The MPP FHLBanks' primary management of credit risk for conventional loans involves the mortgage assets themselves (homeowners' equity) as well as additional layers of credit enhancements. The order of priority for credit enhancements is as follows:

- PMI (when applicable);
- Lender Risk Account; and
- SMI (when applicable).

For conventional loans, PMI, if applicable, covers losses or exposure down to a loan-to-value ratio of between approximately 61% and 80% based on the original appraisal, original loan-to-value ratio, term, amount of PMI coverage, and characteristics of the loan. At the time the underlying conventional loan is purchased, a Lender Risk Account is established by the FHLBank for each PFI selling an MPP loan to that FHLBank. Generally, after five years, if the balance of the funds in the Lender Risk Account exceeds the required balance, the excess amounts are distributed to the PFI based on a step-down schedule set forth in the master commitment contract that establishes the Lender Risk Account.

The MPP mortgage loans are not rated by any nationally recognized statistical rating organization. Participating MPP FHLBanks use a model-based rating methodology (based on a nationally recognized statistical rating organization's model) to assign the Lender Risk Account percentage to each master commitment and to manage the credit risk of committed and purchased conventional loans. The rating model evaluates the characteristics of the loans the PFIs actually delivered to the FHLBanks for the likelihood of timely payment of principal and interest. The model results are based on numerous standard borrower and loan attributes, such as the loan-to-value ratio, loan purpose (such as purchase of home, refinance, or cash-out refinance), type of documentation, income and debt expense ratios, and credit scores. Based on the credit assessment, each MPP FHLBank is required to hold risk-based capital to help mitigate the potential credit risk in accordance with the FHFA regulations.

In addition to the Lender Risk Accounts, participating MPP FHLBanks with SMI coverage are protected from a portion of the credit losses. This coverage may be exceeded based on the severity of a loss on a loan and in certain cases subject to an aggregate stop-loss provision in the SMI policy. If an MPP FHLBank does not have SMI coverage for its MPP loans, it would seek additional credit enhancements, including expanded use of the Lender Risk Account and aggregation of loan purchases into larger loan pools, in order for the purchased mortgage loan pool to achieve a rating equivalent to at least triple-B at the time of acquisition. If any loss extends beyond the insurance coverage and the balance held in the Lender Risk Account, the FHLBank holding the interest in the affected MPP loan would be responsible for absorbing this remaining loss. In total, the credit enhancements are designed to adequately protect the MPP FHLBanks against credit losses in scenarios of severe downward movements in housing prices and unfavorable changes in other factors that can affect loan delinquencies and defaults.

Each MPP FHLBank performs periodic reviews of its portfolio to identify incurred losses and to determine the likelihood of loan collection. If an MPP FHLBank has incurred losses in excess of the collateral held, PMI (if applicable), Lender Risk Account, and SMI (if applicable), these amounts would be recognized as credit losses. In addition to the MPP FHLBanks' credit enhancements, the underwriting and loan characteristics indicate favorable credit performance and the portfolios have experienced only a modest amount of delinquencies and defaults. Because of these factors, participating MPP FHLBanks believe their exposure to credit risk on conventional loans is moderate.

Credit Exposure to Insurance Providers. In addition to credit risk associated with mortgage loans purchased or funded through the Acquired Member Asset programs, the FHLBanks are exposed to the risk of non-performance of mortgage insurers that provide PMI and SMI coverage on mortgage loans.

Primary Mortgage Insurance. Qualified mortgage insurance companies issue PMI for conventional mortgage loans with loan-to-value ratios greater than 80% to cover principally those losses incurred related to borrower default. Historically, the FHLBanks have depended on the PMI policies for loss coverage. An FHLBank may be exposed to credit risk if a PMI provider fails to fulfill its claims payment obligations to that FHLBank. Each FHLBank has policies to limit its credit exposure to each mortgage insurance company, or limit its credit exposure to a certain percentage of the mortgage insurance company's regulatory capital, based on certain criteria, such as the mortgage insurance company's rating by nationally recognized statistical rating organizations. The FHLBanks receive PMI coverage information at acquisition of the mortgage loans and generally do not receive notification of any subsequent changes in PMI coverage. As a result, they can only estimate the amount of PMI in force at any time subsequent to acquisition.

If a PMI provider is downgraded, an FHLBank may request that the servicer obtain replacement PMI coverage with a different provider. However, it is possible that replacement coverage may be unavailable or may result in additional cost to the FHLBank. PMI for conventional mortgage loans must be issued by a mortgage insurance company on that FHLBank's approved mortgage insurance company list whenever PMI coverage is required. In order for a mortgage insurance company to remain on the current approved mortgage insurance company list, the mortgage insurance company must be acceptable for use in that FHLBank's rating modeling software used to calculate the required amount of credit enhancement. In addition, many FHLBanks perform a quarterly analysis evaluating the financial condition and concentration risk regarding the PMI providers, which may include a review of rating levels, ratings watch and outlook, and profitability.

Tables 54 and 55 present the FHLBanks' PMI coverage for seriously delinquent loans (conventional loans 90 days or more delinquent or in the process of foreclosure) by MPF Program and MPP.

Table 54 - Seriously Delinquent Conventional MPF Loans with Primary Mortgage Insurance
(dollars in millions)

		December 31, 2015	
Insurance Provider	Credit Rating(1) by Moody's/S&P	Unpaid Principal Balance(2)	Maximum Coverage Outstanding(3)
Mortgage Guaranty Insurance Co.	Baa3/BBB	$ 13	$ 4
Genworth Mortgage Insurance	Ba1/BB+	9	3
Republic Mortgage Insurance(4)	WR/Not Rated	8	3
United Guaranty Residential Insurance	Baa1/A	8	2
PMI Mortgage Insurance Co.(4)	WR/Not Rated	7	3
Radian Guaranty, Inc.	Baa3/BBB-	4	1
Other		5	2
Total		$ 54	$ 18

(1) Represents the credit rating as of March 15, 2016.
(2) Represents the unpaid principal balance of conventional loans 90 days or more delinquent or in the process of foreclosure. Assumes PMI is in effect at time of origination. Insurance coverage may be discontinued once a certain loan-to-value ratio is met.
(3) Represents the estimated contractual limit for reimbursement of principal losses (i.e., risk in force) assuming the PMI at origination is still in effect. The amount of expected claims under these insurance contracts is substantially less than the contractual limit for reimbursement.
(4) WR represents a previously issued credit rating that has been withdrawn by the rating agency.

Table 55 - Seriously Delinquent Conventional MPP Loans with Primary Mortgage Insurance
(dollars in millions)

		December 31, 2015	
Insurance Provider	Credit Rating(1) by Moody's/S&P	Unpaid Principal Balance(2)	Maximum Coverage Outstanding(3)
Mortgage Guaranty Insurance Co.	Baa3/BBB	$ 4	$ 1
Genworth Mortgage Insurance	Ba1/BB+	3	1
Republic Mortgage Insurance(4)	WR/Not Rated	2	1
Radian Guaranty, Inc.	Baa3/BBB-	2	1
United Guaranty Residential Insurance	Baa1/A	2	1
PMI Mortgage Insurance Co.(4)	WR/Not Rated	1	—
Other		1	—
Total		$ 15	$ 5

(1) Represents the credit rating as of March 15, 2016.
(2) Represents the unpaid principal balance of conventional loans 90 days or more delinquent or in the process of foreclosure. Assumes PMI in effect at time of origination. Insurance coverage may be discontinued once a certain loan-to-value ratio is met.
(3) Represents the estimated contractual limit for reimbursement of principal losses (i.e., risk in force) assuming the PMI at origination is still in effect. The amount of expected claims under these insurance contracts is substantially less than the contractual limit for reimbursement.
(4) WR represents a previously issued credit rating that has been withdrawn by the rating agency.

Certain MPF FHLBanks have discontinued accepting new loans with PMI coverage from mortgage insurers that have a rating below triple-B, as rated by any nationally recognized statistical rating organization, or from mortgage insurers where the new coverage would exceed an FHLBank's internal exposure limits. In addition, certain MPF FHLBanks have discontinued accepting new loans with PMI coverage from mortgage insurers that have been placed under the control or conservatorship of their state insurance regulators.

PMI Mortgage Insurance Co. On October 20, 2011, the Arizona Department of Insurance took possession and control of PMI Mortgage Insurance Co. Beginning October 24, 2011, PMI Mortgage Insurance Co. was only paying out 50% of claim amounts with the remainder of the claim amount owed being deferred until the company is liquidated. On March 14, 2012, the court entered an Order for Appointment of Receiver and Injunction placing PMI Mortgage Insurance Co. into rehabilitation. Between April 5, 2013 and March 7, 2014, the cash percentage of the partial claim payment plan increased from the initial 50% to 67%, with the remaining 33% deferred based on PMI Mortgage Insurance Co.'s ability to pay additional amounts in the future. Additionally, all claims that had previously been settled were trued up (in a one-time payment) to the increased level of 67%. On April 10, 2015, the cash percentage of the partial claim payment plan increased to 70%. The remaining 30% was deferred based upon PMI Mortgage Insurance Co.'s ability to pay additional amounts in the future. Additionally, all claims that had previously been settled at a 67% cash percentage were trued up (in a one-time payment) to the increased level of 70%. No affected FHLBank expects the seizure of PMI Mortgage Insurance Co. and its limitation on claim payments to have a material effect on its financial condition or results of operations.

Supplemental Mortgage Insurance. Certain FHLBanks use SMI as a credit enhancement to limit the loss exposure for their Acquired Member Asset programs. For MPF/MPP loans credit enhanced with SMI, the FHFA's regulations require the FHLBank members that sell loans to their respective FHLBanks to maintain SMI with an insurer rated no lower than the second-highest rating category by any nationally recognized statistical rating organization, unless this requirement is waived by the FHFA. Rating downgrades imply an increased risk that the affected mortgage insurer(s) will fail to fulfill their obligations to reimburse the FHLBanks for claims under insurance policies. If a mortgage insurer fails to fulfill its obligations, the affected FHLBank(s) may bear any remaining loss of the borrower's default on the related mortgage loans not covered by the member.

On August 5, 2011, the FHFA extended a temporary waiver of this requirement until the subject regulation is amended (which has not yet occurred). Under this extended waiver, the FHLBanks are required to continue evaluating the claims-paying ability of SMI providers, determine whether to hold additional retained earnings, and take any other steps necessary to mitigate any attendant risk associated with using an SMI provider having a rating below the standard established by the Acquired Member Asset regulation.

Each MPF FHLBank evaluates the claims-paying ability of its SMI providers. As a result of losses experienced in the mortgage markets, SMI providers may no longer meet the program's required credit standards. If an SMI provider no longer qualifies, the PFI must either replace the SMI policy or agree to act as a surety for any losses that would have been covered by the policy. If a PFI neither replaces the policy nor agrees to act as a surety, its MPF FHLBank would no longer pay the PFI performance-based credit enhancement fees. If a PFI agrees to act as a surety, it would continue to receive performance-based credit enhancement fees and its MPF FHLBank would require the PFI to collateralize its obligation to act as surety.

Each affected MPP FHLBank has evaluated the claims-paying ability of its SMI providers. These MPP FHLBanks determined that it is not necessary to increase the amount of required risk-based capital as a result of assigning a higher risk weighting to the assets covered by a downgraded SMI provider under the credit risk-based capital calculations.

Certain MPP FHLBanks have canceled their respective SMI policies or have discontinued obtaining SMI on new loans, as part of the approved new business activity plan, and continue to use the downgraded insurance providers for existing loans in compliance with the temporary waiver issued by the FHFA. The FHFA approved notices of new business activity plans for certain MPP FHLBanks that use an enhanced Lender Risk Account, which is funded by an FHLBank upfront as a portion of the purchase proceeds, for additional credit enhancement for new MPP business, consistent with FHFA regulations.

FICO® Score and Loan-to-Value Ratios. High loan-to-value ratios, in which homeowners have little or no equity at stake, and low FICO® scores are key drivers of potential mortgage delinquencies and defaults. The FHLBanks generally consider a FICO® score of over 660, and a loan-to-value ratio of 80% or lower, as benchmarks indicating reduced credit risk of default. As of December 31, 2015, outstanding conventional loans with FICO® scores under 660 at origination totaled 7.7% and 1.7% of the

MPF Program and MPP total mortgage loan portfolios. Considering both qualitative and quantitative factors, these loans were not considered high-risk loans at origination or at the time of purchase based on the Acquired Member Asset program's design and the original terms and structure of the loans. Each FHLBank's allowance for credit losses on mortgage loans reflects the incurred losses associated with loans that are considered high-risk subsequent to origination or purchase.

Table 56 presents conventional MPF Program and MPP loans by FICO® score at origination and current delinquency rate at December 31, 2015.

Table 56 - MPF and MPP Conventional Loans by FICO® Score and Delinquency Rate
(dollars in millions)

	December 31, 2015				
			Delinquent		
FICO® Score at Origination (1)	Unpaid Principal Balance	Current	30 Days	60 Days	90 Days or More
MPF Conventional Loans					
619 or less	$ 328	80.7%	8.4%	3.3%	7.6%
620-659	1,464	89.6%	4.6%	1.8%	4.0%
660 or higher	22,624	98.1%	0.9%	0.2%	0.8%
No FICO® score	103	93.2%	3.2%	1.1%	2.5%
Total	$ 24,519	97.3%	1.2%	0.4%	1.1%
Weighted average FICO® score - MPF	739				
MPP Conventional Loans					
619 or less	$ 18	88.8%	5.3%	1.7%	4.2%
620-659	235	86.4%	6.6%	1.5%	5.5%
660 or higher	14,579	98.8%	0.6%	0.1%	0.5%
No FICO® score	—	—	—	—	—
Total	$ 14,832	98.6%	0.7%	0.2%	0.5%
Weighted average FICO® score - MPP	758				

(1) Represents the original lowest FICO® score of the borrowers and co-borrowers.

Table 57 presents loan-to-value ratios at origination for MPF and MPP conventional loans outstanding at December 31, 2015.

Table 57 - MPF and MPP Conventional Loans by Loan-to-Value Ratio at Origination

	December 31, 2015			
	MPF Conventional Loans		MPP Conventional Loans	
Loan-to-Value Ratio at Origination	Unpaid Principal Balance	Percentage	Unpaid Principal Balance	Percentage
< = 60%	$ 4,737	19.3%	$ 2,362	15.9%
> 60% to 70%	3,715	15.2%	2,303	15.5%
> 70% to 80%	12,610	51.4%	8,103	54.6%
> 80% to 90%(1)	1,910	7.8%	1,350	9.1%
> 90%(1)	1,547	6.3%	714	4.9%
Total	$ 24,519	100.0%	$ 14,832	100.0%
Weighted-average loan-to-value %		72.0%		72.5%

(1) These conventional loans were required to have PMI at origination.

Geographic Concentrations. Tables 58 and 59 provide the percentage of unpaid principal balance of conventional mortgage loans held for portfolio outstanding at December 31, 2015, for the five largest state concentrations, with comparable data at December 31, 2014. These tables show the state concentration on an aggregated basis for all FHLBanks that hold loans under the MPF Program and MPP. As a result, these tables do not necessarily reflect the actual state concentration with respect to each individual FHLBank.

Table 58 - State Concentrations of MPF Program

	December 31,(1)	
	2015	2014
Kansas	9.0%	8.2%
Iowa	8.9%	8.9%
Pennsylvania	7.8%	7.1%
New York	6.5%	5.9%
Massachusetts	6.4%	5.8%
All Other	61.4%	64.1%
Total	100.0%	100.0%

(1) Calculated percentage based on unpaid principal balance of conventional loans at the end of the period. The state concentrations reflect the top five states at December 31, 2015.

Table 59 - State Concentrations of MPP

	December 31,(1)	
	2015	2014
Ohio	32.3%	31.7%
Indiana	20.3%	19.7%
Michigan	14.8%	14.0%
California	7.4%	5.5%
Kentucky	7.0%	7.0%
All Other	18.2%	22.1%
Total	100.0%	100.0%

(1) Calculated percentage based on unpaid principal balance of conventional loans at the end of the period. The state concentrations reflect the top five states at December 31, 2015.

Derivative Counterparties. Each FHLBank transacts most of its derivatives with large banks and major broker-dealers. Derivative transactions may be either executed with a counterparty (uncleared derivatives) or cleared through a Futures Commission Merchant (i.e., clearing agent) with a Derivative Clearing Organization (cleared derivatives).

Each FHLBank is subject to credit risk due to the risk of non-performance 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. Each FHLBank manages credit risk through credit analysis, collateral management, and other credit enhancements. The FHLBanks are also required to follow the requirements set forth by applicable regulation.

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

Uncleared Derivatives. Each FHLBank is subject to the risk of non-performance by the counterparties to its uncleared derivative transactions. An FHLBank generally requires collateral on uncleared derivative transactions. Unless the collateral delivery threshold is set to zero, 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 generally must deliver collateral if the total market value of the FHLBank's exposure to that counterparty rises above a specific trigger point. As a result of these risk mitigation initiatives, the management of each FHLBank did not anticipate any credit losses on its uncleared derivative transactions as of December 31, 2015.

Cleared Derivatives. Each FHLBank is subject to the risk of non-performance by the Derivative Clearing Organization(s) (Clearinghouse) and the clearing agents. The requirement that an FHLBank posts initial and variation margin through the clearing agent, to the Clearinghouse, exposes an FHLBank to credit risk in the event that the clearing agent or the Clearinghouse fails to meet its obligations. However, the use of cleared derivatives is intended to mitigate an FHLBank's overall 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 management of each FHLBank did not anticipate any credit losses on its cleared derivatives as of December 31, 2015.

Table 60 presents the derivative positions with non-member counterparties and member institutions to which the FHLBanks had credit exposure at December 31, 2015.

Table 60 - Derivative Counterparty Credit Exposure at December 31, 2015
(dollars in millions)

Credit Rating(1)	Notional Amount	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparties	Non-cash Collateral Pledged To (From) Counterparties	Net Credit Exposure to Counterparties
Non-member counterparties					
Asset positions with credit exposure					
Uncleared derivatives					
Double-A	$ 834	$ 2	$ —	$ —	$ 2
Single-A	12,272	239	(216)	—	23
Triple-B	536	2	(2)	—	—
Cleared derivatives(2)	97,393	285	(72)	—	213
Liability positions with credit exposure					
Uncleared derivatives					
Double-A	1,062	(14)	14	—	—
Single-A	11,633	(149)	136	22	9
Triple-B	4,833	(94)	52	45	3
Cleared derivatives(2)	227,549	(1,258)	1,724	362	828
Total derivative positions with credit exposure to non-member counterparties	356,112	(987)	1,636	429	1,078
Member institutions(3)	470	2	—	—	2
Total	$ 356,582	$ (985)	$ 1,636	$ 429	$ 1,080

(1) This chart does not reflect any changes in rating, outlook, or watch status occurring after December 31, 2015. The ratings presented in this table represent the lowest long-term counterparty credit rating available for each counterparty of an individual FHLBank, based on the nationally recognized statistical rating organization(s) used by that FHLBank.
(2) Represents derivative transactions cleared with Clearinghouses, which are not rated.
(3) Member institutions include mortgage delivery commitments and derivatives with members where an FHLBank is acting as an intermediary. Collateral held with respect to derivatives with member institutions where an FHLBank is acting as an intermediary represents the amount of eligible collateral physically held by or on behalf of the FHLBank or collateral assigned to the FHLBank, as evidenced by a written security agreement, and held by the member institution for the benefit of that FHLBank.

Liquidity Risk

Liquidity risk is the risk that an FHLBank will be unable to meet its financial obligations as they come due or meet the credit needs of its members and housing associates in a timely, cost-effective manner. There are two types of liquidity risk that affect the FHLBanks:

- *Operational Liquidity Risk.* The potential inability of an FHLBank to meet its anticipated (or unanticipated) day-to-day needs through normal sources of funding, including the short-term discount note market; and

- *Contingency Liquidity Risk.* The potential inability of an FHLBank to meet its liquidity needs when its access to the capital markets is impeded, including the short-term discount note market.

To address liquidity risk, the FHLBank Act and FHFA regulations set liquidity requirements for the FHLBanks. (See *Liquidity and Capital Resources* for FHFA regulations on the FHLBanks' liquidity requirements.) An individual FHLBank's board of directors may also set additional liquidity policies.

The FHLBanks' primary sources of liquidity are the issuance of new consolidated obligations, and holdings of cash and investments that are primarily high-quality, short-, and intermediate-term financial instruments. During 2015, the FHLBanks maintained access to funding and were able to structure their debt issuance to meet the credit and liquidity needs of their members and to meet their financial commitments. (See *Combined Financial Condition - Consolidated Obligations* for additional analysis and discussion about the FHLBanks' consolidated obligations and *Risk Factors* - *Liquidity Risk* for additional discussion on liquidity risk.)

Operational Risk

Operational risk is the risk of potential loss resulting from inadequate or failed internal processes, people, or systems, or from external events. These failures may be due to:

- human error;
- key person dependency;
- systems malfunctions or cyber attacks;
- man-made or natural disasters;
- critical vendor or third-party failure;
- unenforceability of legal contracts;
- fraud; or
- circumvention or failure of internal controls.

Each of the FHLBanks and the Office of Finance has established comprehensive risk assessments, as well as financial and operating policies and procedures, to reduce the likelihood of these occurrences and the potential for damage that could result from them. They have also each instituted insurance coverage to mitigate damages that could result from these risks. The internal audit department of each of the FHLBanks and the Office of Finance, which reports directly to its audit committee, regularly monitors and tests its entity's compliance with established policies and procedures.

Each of the FHLBanks and the Office of Finance relies heavily on its information systems and other technology to conduct and manage its business. Controls are in place to ensure information technology assets are well managed and secure from unauthorized access, and to identify cyber risk events. In addition, each of the FHLBanks and the Office of Finance has a business continuity plan that is designed to restore critical business processes and systems in the event of a disruption. Some of the operational risks of the FHLBanks and Office of Finance, however, are beyond their control. Furthermore, the failure of other parties to address their operational risk adequately could adversely affect the FHLBanks and the Office of Finance. (See *Risk Factors* - *Operational Risk* for additional information about certain operational risks and *Controls and Procedures* for additional information regarding each FHLBank's controls over its financial reporting and the Office of Finance's controls and procedures over the combined financial reporting process.)

Business Risk

Business risk is the risk of an adverse effect on an FHLBank's profitability and its ability to fulfill its mission as a result of external factors that may occur in both the short and long term. Business risk includes political, strategic, reputation, and/or regulatory events that are beyond the individual FHLBank's control. From time to time, proposals or changes in laws and regulations are made or considered, which could affect the status of the FHLBanks and their costs of doing business. (See *Risk Factors* for additional discussions of general business risk, legislative and regulatory business risk, and strategic business risk.)

Each FHLBank's board of directors and management try to reduce these business risks through long-term strategic planning and by continually monitoring economic indicators and their external environment. Additionally, the FHLBanks are members of the Council of Federal Home Loan Banks (Council), a trade association based in Washington, D.C. whose primary function is to represent the positions and views of the Council's members to policymakers. The Council's mission is to: (1) ensure the FHLBanks' common legislative and regulatory interests are served; (2) promote enactment of laws and regulations that are beneficial to the FHLBanks; and (3) enhance awareness and understanding of the FHLBanks among Washington, D.C. leaders, including members of the U.S. Congress, the executive branch of the U.S. government, regulators, trade associations, and the financial media.

An FHLBank's financial strategies are generally designed to enable it to safely expand and contract its assets, liabilities, and capital in response to changes in its member base and in its members' credit needs. An FHLBank's capital generally grows when members are required to purchase additional capital stock as they increase their advances borrowings or other business activities with their FHLBank. The FHLBanks may also repurchase excess capital stock from members as business activities with those members decline. In addition, an individual FHLBank, at the discretion of its board of directors or management, could undertake the following capital preservation initiatives in order to meet internally established thresholds or to meet its regulatory capital requirement: (1) voluntarily reduce or eliminate the payment of dividends; (2) suspend excess capital stock repurchases; or (3) raise the capital stock holding requirements for its members.

An FHLBank may have borrower concentration risk in advances, and therefore, it analyzes the implications for its financial management and profitability if it were to lose the advances of one or more of these borrowers. (See *Combined Financial Condition - Advances* for the *Top 10 Advance Holding Borrowers by Holding Company at December 31, 2015*, for the FHLBank System's member concentration risk and *Top 5 Advance Holding Borrowers by FHLBank at December 31, 2015,* for more information regarding each FHLBank's member concentration risk.)

If an FHLBank loses one or more large borrowers that represent a significant portion of its business, that FHLBank could, depending on the magnitude of the effect, compensate for the loss by:

- lowering dividend rates;
- raising advance rates;
- attempting to reduce operating expenses; or
- undertaking some combination of these actions.

The magnitude of the effect would depend, in part, on the FHLBank's size and profitability at the time the institution ceases to be a borrower. Each FHLBank describes its risk management policies, including disclosures about its member concentration risk, if any, in its periodic reports filed with the SEC.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Each FHLBank is responsible for establishing its own risk management philosophies, practices, and policies. Each FHLBank describes its risk management policies for its business, including quantitative and qualitative disclosures about its market risk, in its periodic reports filed with the SEC. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report.*)

Each FHLBank has established policies and procedures to evaluate, manage, and mitigate market risks. The FHFA has established regulations governing the risk management practices of the FHLBanks. The FHLBanks must file periodic compliance reports with the FHFA. The FHFA conducts annual on-site examinations, interim on-site visits, and off-site analyses of each FHLBank and the Office of Finance.

Interest-Rate Risk

Interest-rate risk is the risk that relative and absolute changes in interest rates may adversely affect an institution's financial condition. The goal of an interest-rate risk management strategy is not necessarily to eliminate interest-rate risk, but to manage it by setting, and operating within, an appropriate framework and limits. The FHLBanks generally manage interest-rate risk by acquiring and maintaining a portfolio of assets and liabilities and entering into related derivative transactions to limit the expected mismatches in duration. The FHLBanks measure and monitor interest rate-risk with commonly used methods, which include the calculations of market value of equity, duration of equity, and duration gap.

The optionality embedded in certain financial instruments held by the FHLBanks can create interest-rate risk. For example, when a member prepays an advance, this can lead to lower future income for the FHLBank. If the principal portion of the advance being prepaid is reinvested in assets yielding a lower return, but that principal amount continues to be funded by the original (higher-cost) debt, the FHLBank can suffer lower net returns. To protect against this risk, each FHLBank generally charges members a prepayment fee to compensate the FHLBank for this potential loss, making it financially indifferent to the prepayment. When an FHLBank offers advances (other than short-term advances) that a member may prepay without a prepayment fee, it usually finances these advances with callable debt or otherwise hedges this option.

The FHLBanks hold mortgage-related investments, such as mortgage loans and mortgage-backed securities. Because mortgage-related investments may contain prepayment options, changes in interest rates may cause the expected maturities of these investments to become shorter (prepay) or longer (extend). The rate and timing of unscheduled payments and collections of principal on mortgage loans are difficult to predict accurately and will be affected by a variety of factors. While the FHLBanks manage prepayment and extension risk by using a combination of debt instruments and derivative transactions, if the level of actual prepayments is higher or lower than expected, the FHLBanks may incur additional costs to hedge the change in this market-risk exposure, which would result in reduced earnings. FHFA regulation also limits this source of interest-rate risk by restricting the types of mortgage-backed securities the FHLBanks may own. FHLBanks may own only those mortgage-backed securities with limited average life extension under certain interest-rate shock scenarios. The FHLBanks may hedge against prepayment risk by funding some mortgage-related investments with consolidated obligations that have call features. In addition, the FHLBanks may use caps, floors, and other derivative transactions to manage the extension and contraction variability of mortgage-related investments. The FHLBanks may also use derivative transactions to manage the interest-rate risk associated with investment securities, other than mortgage-backed securities, to match the cash flow characteristics and/or market value of the hedged item.

Market Value of Equity and Duration of Equity

An FHLBank may analyze its interest-rate risk exposure by evaluating its theoretical market value of equity. Market value of equity represents the difference between the theoretical market value of total assets and the theoretical market value of total liabilities, including off-balance sheet items. It measures, in present value terms, the long-term economic value of current capital and the long-term level and volatility of net interest income. Generally, an FHLBank analyzes the sensitivity of the market value of equity to changes in interest rates, prepayment speeds, options prices, mortgage and debt spreads, interest-rate volatility, and other market variables. Therefore, market values can be calculated under various interest-rate scenarios, and the resulting changes in net equity can provide an indicator of the exposure of that FHLBank's market value of equity to market volatility. However, market value of equity should not be considered indicative of the market value of an FHLBank as a going concern or the value of an FHLBank in a liquidation scenario because it does not consider future new business activities, risk management strategies, or the net profitability of assets after funding costs are subtracted.

Another measure of interest-rate risk is duration of equity, which measures how sensitive a theoretical market value of equity is to changes in interest rates. Duration of equity equals the market value-weighted duration of assets minus the market value-weighted duration of liabilities, divided by the market value of equity. Each FHLBank has an internal modeling system for measuring its duration of equity; therefore, individual FHLBank measurements may not be directly comparable. Each FHLBank reports the results of its duration of equity calculations to the FHFA each quarter. However, not all FHLBanks manage to the duration of equity risk measure. The capital adequacy rules of the FHFA require each FHLBank to hold permanent capital in an amount sufficient to cover the sum of its credit, market, and operations risk-based capital requirements, which are defined by applicable regulations. Each FHLBank has developed a market-risk model that calculates the market-risk component of this requirement.

Table 61 presents each FHLBank that includes quantitative market value of equity and duration of equity information in its individual 2015 SEC Form 10-K.

Table 61 - Individual FHLBank's Market Value of Equity and Duration of Equity Disclosures

FHLBank	Market Value of Equity	Duration of Equity
Boston	✓	✓
New York	✓	✓
Pittsburgh	(1)	✓
Atlanta	✓	✓
Cincinnati	✓	✓
Indianapolis	✓	✓
Chicago	✓	(2)
Des Moines	(3)	(3)
Dallas	✓	✓
Topeka	(4)	✓
San Francisco	✓	(5)

(1) The FHLBank of Pittsburgh monitors and measures market value of equity to par value of capital stock, as described in its 2015 SEC Form 10-K. In addition, the FHLBank of Pittsburgh also monitors return on equity spread volatility relative to a return on equity spread volatility limit, established and approved by its board of directors.

(2) The FHLBank of Chicago disclosed the dollar limits on changes in market value under parallel interest rate shocks in addition to duration of equity in its 2015 SEC Form 10-K.

(3) Although the FHLBank of Des Moines measures and monitors market value of equity and duration of equity, those measures are not disclosed as key market risk measures. The FHLBank of Des Moines disclosed, in its 2015 SEC Form 10-K, market value of capital stock (MVCS) and projected income sensitivity as key risk measures and economic value of capital stock (EVCS) as its key capital adequacy measure.

(4) The FHLBank of Topeka measures and monitors market value of equity (MVE); however, the FHLBank of Topeka measures market value risk in terms of its MVE in relation to its total regulatory capital stock outstanding instead of to its book value of equity. As described in its 2015 SEC Form 10-K, the FHLBank of Topeka believes this is a reasonable metric because, as a cooperative, the metric reflects the market value of the FHLBank of Topeka relative to the book value of its capital stock.

(5) The FHLBank of San Francisco does not disclose duration of equity, rather it discloses comparable metrics, "Market Value of Capital Sensitivity" and "Net Portfolio Value of Capital Sensitivity" as key market risk measures.

Table 62 presents the duration of equity reported by each FHLBank to the FHFA in accordance with the FHFA's guidance, which prescribes that down and up interest-rate shocks equal 200 basis points. However, the applicable guidance restricts the down rate from assuming a negative interest rate. Therefore, each FHLBank adjusts the down rate accordingly in periods of very low levels of interest rates.

Table 62 - Duration of Equity
(in years)

	December 31, 2015			December 31, 2014		
FHLBank	Down	Base	Up	Down	Base	Up
Boston	(4.1)	0.1	3.5	0.4	0.0	3.1
New York	1.9	(0.6)	0.8	1.1	(0.7)	1.0
Pittsburgh	3.3	(0.6)	0.8	2.5	(0.4)	1.5
Atlanta	(0.3)	0.2	3.9	(0.4)	(0.3)	4.0
Cincinnati	(5.7)	0.6	3.3	(3.4)	1.0	3.5
Indianapolis	(3.2)	2.2	3.2	(3.7)	0.0	2.6
Chicago	2.8	0.6	0.7	3.2	(0.3)	0.2
Des Moines	(2.5)	(1.8)	1.4	(2.1)	(0.7)	3.1
Dallas	3.5	(0.5)	2.2	4.4	0.6	3.6
Topeka	2.0	1.0	2.0	1.8	(0.9)	1.8
San Francisco	2.2	2.3	3.0	1.2	1.2	1.8

Duration Gap

A related measure of interest-rate risk is duration gap, which is the difference between the estimated durations (market value sensitivity) of assets and liabilities, and reflects the extent to which estimated maturity and repricing cash flows for assets and liabilities are matched. Duration gap determines the sensitivity of assets and liabilities to interest-rate changes. Each FHLBank has an internal modeling system for measuring its duration gap; therefore, individual FHLBank measurements may not be directly comparable. Duration generally indicates the expected change in an instrument's market value resulting from an increase or a decrease in interest rates. Higher duration numbers, whether positive or negative, indicate greater volatility in the market value of equity in response to changing interest rates. Duration gap numbers in Table 63 include the effect of derivative transactions.

Table 63 - Duration Gap
(in months)

FHLBank	December 31, 2015	December 31, 2014
Boston	0.1	0.0
New York	(0.8)	(0.8)
Pittsburgh	(0.6)	(0.5)
Atlanta	(0.1)	(0.4)
Cincinnati	0.0	0.0
Indianapolis	0.7	(0.9)
Chicago	0.5	(0.2)
Des Moines	(1.1)	(0.6)
Dallas	(0.6)	0.2
Topeka	0.5	(0.6)
San Francisco	1.4	0.4

Use of Derivatives to Manage Interest-Rate Risk

An FHLBank enters into derivatives to manage interest-rate risk, prepayment risk, and exposure inherent in otherwise unhedged assets and funding positions. An FHLBank attempts to use derivatives to reduce interest-rate exposure in the most cost-efficient manner. Derivatives are used to manage the effective maturity, repricing frequency, or option characteristics of financial instruments to achieve risk-management objectives. (See *Note 12 - Derivatives and Hedging Activities* to the accompanying combined financial statements for a discussion of managing interest-rate risk exposure and *Financial Discussion and Analysis - Combined Results of Operations* for the effect of derivatives and hedging activities on net interest income and non-interest income resulting from the FHLBanks' hedging strategies.)

Table 64 presents the notional amount of the derivatives used to manage interest-rate risk. The notional amount of derivatives serves as a factor in determining periodic interest payments or cash flows received and paid, and reflects the FHLBanks' involvement in the various classes of financial instruments. However, the notional amount of derivatives does not represent the actual amounts exchanged or the overall exposure of the FHLBanks 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.

Table 64 - Hedging Strategies
(dollars in millions)

Hedged Item / Hedging Instrument	Hedging Objective	Hedge Accounting Designation(1)	December 31, 2015 Notional Amount	December 31, 2014 Notional Amount
Advances(2)				
Pay-fixed, receive-float interest-rate swap (without options)	Converts the advance's fixed rate to a variable-rate index.	Fair Value	$ 106,067	$ 91,777
		Economic	11,794	7,999
Pay-fixed, receive-float 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	37,304	47,800
		Economic	508	666
Pay-fixed, receive-float interest-rate swap (with purchased swaption)	Converts the advance's fixed rate to a variable-rate index and offsets an optional commitment embedded in the advance that allows the member to increase the amount of the advance.	Fair Value	8	—
Receive-fixed, pay-float interest-rate swap	Converts the advance's variable rate to a fixed rate.	Economic	672	200
Pay-float with embedded features, receive-float 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	577	692
Pay-float with embedded features, receive-float 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	850	730
		Economic	15	—
Pay-float, receive-float basis swap	Reduces interest-rate sensitivity and repricing gaps by converting the advance's variable rate to a different variable-rate index.	Economic	179	209
Interest-rate cap, floor, corridor, or collar	Offsets the interest cap, floor, corridor, or collar embedded in a variable-rate advance.	Fair Value	60	222
		Economic	92	201
Interest-rate swaption	Provides the option to enter into an interest-rate swap to offset interest-rate risk associated with an optional advance commitment.	Economic	405	495
		Total	158,531	150,991
Investment securities(3)				
Pay-fixed, receive-float interest-rate swap	Converts the investment security's fixed rate to a variable-rate index.	Fair Value	26,949	22,473
		Economic	7,263	4,241
Pay-float, receive-float interest-rate swap	Converts the investment security's variable rate to a different variable-rate index.	Economic	575	2,412
Interest-rate cap or floor	Offsets the interest-rate cap or floor embedded in a variable-rate investment.	Economic	8,118	10,410
Pay-fixed, receive-float interest-rate swap (with options)	Converts the investment securities' fixed rate to a variable-rate index and offsets option risk in the investment.	Fair Value	272	—
Interest-rate swaption	Provides the option to enter into an interest-rate swap to offset the embedded option risk in certain investment securities.	Economic	25	—
		Total	43,202	39,536
Mortgage loans(4)				
Pay-fixed, receive-float interest-rate swap	Converts the mortgage loan's fixed rate to a variable-rate index.	Economic	8,244	8,105
Receive-fixed, pay-float interest-rate swap	Converts the variable rate to a fixed rate in a pooled mortgage portfolio hedge.	Economic	6,825	6,355
Interest-rate swaption	Provides the option to enter into an interest-rate swap to offset interest-rate or prepayment risk in a pooled mortgage portfolio hedge.	Economic	865	1,355
Interest-rate cap or floor	Protects against changes in income of certain mortgage assets due to changes in interest rates.	Economic	1,125	1,125
Forward settlement agreement	Protects against changes in market value of fixed-rate mortgage delivery commitments resulting from changes in interest rates.	Economic	733	759
		Total	17,792	17,699

Hedged Item / Hedging Instrument	Hedging Objective	Hedge Accounting Designation(1)	December 31, 2015 Notional Amount	December 31, 2014 Notional Amount
Consolidated bonds(5)				
Receive-fixed or structured, pay-float interest-rate swap (without options)	Converts the bond's fixed or structured rate to a variable-rate index.	Fair Value	118,019	136,714
		Economic	24,921	37,105
Receive-fixed or structured, pay-float interest-rate swap (with options)	Converts the bond's fixed- or structured-rate to a variable-rate index and offsets option risk in the bond.	Fair Value	40,155	98,328
		Economic	6,781	15,916
Receive-float with embedded features, pay-float interest-rate swap (callable)	Reduces interest-rate sensitivity and repricing gaps by converting the bond's variable rate to a different variable-rate index and/or offsets embedded option risk in the bond.	Fair Value	55	160
		Economic	15	100
Receive-float with embedded features, pay-float interest rate swap (non-callable)	Reduces interest-rate sensitivity and repricing gaps by converting the bond's variable rate to a different variable-rate index and/or offsets embedded option risk in the bond.	Fair Value	120	130
Receive-float, pay-float basis swap	Reduces interest-rate sensitivity and repricing gaps by converting the bond's variable rate to a different variable-rate index.	Economic	4,635	3,155
Pay-fixed, receive-float interest-rate swap	Fixed-rate or variable-rate non-callable bond, which may have been previously converted to LIBOR, converted to fixed-rate debt that offsets the interest-rate risk of mortgage assets.	Economic	170	255
Basis swap	Fixed-rate or variable-rate non-callable bond previously converted to a variable-rate index, converted to another variable-rate index to reduce interest-rate sensitivity and repricing gaps.	Economic	14,986	1,400
Forward-starting interest-rate swap	Locks in the cost of funding on anticipated issuance of debt.	Cash Flow	563	1,174
Interest-rate swaption	Provides the option to enter into an interest-rate swap to offset interest-rate or prepayment risk associated with a future issuance of debt.	Economic	—	25
		Total	210,420	294,462
Consolidated discount notes(6)				
Receive-fixed, pay-float interest-rate swap	Converts the discount note's fixed rate to a variable-rate index.	Fair Value	16,065	2,025
		Economic	46,437	19,084
Pay-fixed, receive-float interest-rate swap (with options)	Discount note converted to fixed-rate callable debt that offsets the prepayment risk of mortgage assets.	Economic	1,355	1,670
Pay-fixed, receive-float interest-rate swap (without options)	Discount note converted to fixed-rate non-callable debt that offsets the interest-rate risk of mortgage assets.	Economic	720	315
Interest-rate cap, floor, or swap	Mitigates the variability of cash flows associated with the benchmark interest rate (LIBOR).	Cash Flow	7,657	7,719
		Total	72,234	30,813
Balance sheet				
Pay-fixed, receive-float interest-rate swap	Converts the asset or liability fixed rate to a variable-rate index.	Economic	105	105
Interest-rate swaption	Provides the option to enter into an interest-rate swap to offset interest-rate or prepayment risk.	Economic	481	375
Interest-rate cap or floor	Protects against changes in income of certain assets due to changes in interest rates.	Economic	19,192	19,192
		Total	19,778	19,672

Hedged Item / Hedging Instrument	Hedging Objective	Hedge Accounting Designation(1)	December 31, 2015 Notional Amount	December 31, 2014 Notional Amount
Intermediary positions and other				
Pay-fixed, receive-float interest-rate swap, and receive-fixed, pay-float interest-rate swap	To offset interest-rate swaps executed with members by executing interest-rate swaps with derivatives counterparties.	Economic	2,443	1,361
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.	Economic	88	126
Pay-fixed, receive-float interest-rate swap, and receive-fixed, pay-float interest-rate swap	Interest-rate swap used to offset the economic effect of an interest-rate swap that is no longer designated to advances, investment securities, mortgage loans, consolidated bonds or consolidated discount notes.	Economic	605	473
		Total	3,136	1,960
Stand-alone derivatives				
Mortgage delivery commitment	Exposed to fair-value risk associated with fixed-rate mortgage purchase commitments.	N/A	1,207	1,172
		Total	1,207	1,172
Total Notional Amount			$ 526,300	$ 556,305

(1) The Fair Value and Cash Flow categories represent hedging strategies for which qualifying hedge accounting is achieved. The Economic category represents hedging strategies for which qualifying hedge accounting is not achieved.
(2) At December 31, 2015 and 2014, the par value of advances outstanding was $631,233 million and $565,672 million.
(3) At December 31, 2015 and 2014, the fair value of trading securities was $10,760 million and $9,600 million and the amortized cost of AFS securities was $75,309 million and $73,456 million.
(4) At December 31, 2015 and 2014, the unpaid principal balance of mortgage loans held for portfolio was $43,768 million and $42,872 million.
(5) At December 31, 2015 and 2014, the par value of consolidated bonds outstanding was $410,581 million and $484,521 million.
(6) At December 31, 2015 and 2014, the par value of consolidated discount notes outstanding was $494,343 million and $362,363 million.

At December 31, 2015, certain FHLBanks had full fair value hedges of consolidated bonds with a notional amount of $50 million and an estimated fair value gain of $2 million. The remaining fair value hedges presented in Table 64 at December 31, 2015, represent benchmark interest-rate hedges.

FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Financial Statements

The combined financial statements and accompanying notes, including the Office of Finance Audit Committee Report and the Independent Auditor's Report, begin on page F-1 of this Combined Financial Report.

Supplementary Financial Data

Table 65 - Selected Quarterly Combined Results of Operations (Unaudited)
(dollars in millions)

	2015 Quarter Ended			
	December 31	September 30	June 30	March 31
Total interest income	$ 2,265	$ 2,020	$ 1,859	$ 2,012
Total interest expense	1,258	1,140	1,121	1,089
Net interest income	1,007	880	738	923
Provision (reversal) for credit losses	1	1	3	(1)
Net interest income after provision (reversal) for credit losses	1,006	879	735	924
Non-interest income (loss)	51	(79)	391	480
Non-interest expense	307	260	359	273
Affordable Housing Program assessments	77	56	83	116
Net income	$ 673	$ 484	$ 684	$ 1,015

	2014 Quarter Ended			
	December 31	September 30	June 30	March 31
Total interest income	$ 2,025	$ 1,971	$ 2,008	$ 2,028
Total interest expense	1,084	1,107	1,148	1,171
Net interest income	941	864	860	857
Provision (reversal) for credit losses	(1)	(5)	(4)	(11)
Net interest income after provision (reversal) for credit losses	942	869	864	868
Non-interest income (loss)	(42)	88	(35)	6
Non-interest expense	286	258	252	250
Affordable Housing Program assessments	64	74	63	68
Net income	$ 550	$ 625	$ 514	$ 556

CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON COMBINED ACCOUNTING AND FINANCIAL DISCLOSURES

There were no changes in accountants or disagreements with accountants in the period covered by this Combined Financial Report.

CONTROLS AND PROCEDURES

FHLBanks

The management of each FHLBank is required under applicable laws and regulations to establish and maintain effective disclosure controls and procedures as well as effective internal control over financial reporting, as such disclosure controls and procedures and internal control over financial reporting relate to that FHLBank only. Each FHLBank's management assessed the effectiveness of its individual internal control over financial reporting as of December 31, 2015, based on the criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management of each FHLBank, other than the FHLBank of Des Moines, concluded, as of December 31, 2015, that its individual internal control over financial reporting is effective based on the criteria established in *Internal Control-Integrated Framework (2013).* Additionally, the independent registered public accounting firm of each FHLBank, other than the FHLBank of Des Moines, opined that the respective individual FHLBank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015. (See *Part II. Item 8 - Financial Statements and Supplementary Data* or *Item 9A - Controls and Procedures* of each FHLBank's 2015 SEC Form 10-K for its *Management's Report on Internal Control over Financial Reporting*.)

Each FHLBank, other than the FHLBank of Des Moines, indicated that there were no changes to its internal control over financial reporting during the quarter ended December 31, 2015, that materially affected, or are reasonably likely to affect, its internal control over financial reporting. Additionally, management of each of these FHLBanks concluded that its disclosure controls and procedures were effective at a reasonable assurance level as of the quarter ended December 31, 2015. (See *Part II. Item 9A - Controls and Procedures* of each FHLBank's 2015 SEC Form 10-K.)

In preparation for the merger, the FHLBank of Des Moines established a control framework to ensure the completeness and accuracy of merger information from the FHLBank of Seattle and the accurate processing of that data through the FHLBank of Des Moines' systems at and following the merger date. The changes to the FHLBank of Des Moines' internal control over financial reporting during the quarter ended December 31, 2015, resulting from the merger and the applicable material weakness remediation steps as outlined in *Part II. Item 9A - Controls and Procedures* of the FHLBank of Des Moines' 2015 SEC Form 10-K, materially affected, or are reasonably likely to affect, its internal control over financial reporting.

FHLBank of Des Moines' Material Weaknesses in Internal Control over Financial Reporting

The FHLBank of Des Moines' management identified three material weaknesses in its internal controls as of December 31, 2015: 1) ineffective control over multiple changes within its business environment during 2015, including certain implications of the merger; 2) ineffective controls over spreadsheets used in its financial close and reporting process; and 3) failure to consistently conform to its existing internal control procedures established to ensure appropriate logical access to its information technology systems. As a result, the FHLBank of Des Moines' management determined that its internal control over financial reporting was not effective as of December 31, 2015, and that its disclosure controls and procedures were not effective at a reasonable assurance level as of the quarter ended December 31, 2015. Despite the identified material weaknesses, no material audit adjustments were required to be made to the FHLBank of Des Moines' 2015 annual financial statements. However, if not corrected, these material weaknesses could result in a material misstatement to the FHLBank of Des Moines' annual or interim financial statements that would not be prevented or detected on a timely basis. (See *Part II. Item 8 - Financial Statements and Supplementary Data* and *Item 9A - Controls and Procedures of the FHLBank of Des Moines' 2015 SEC Form 10-K* for additional information.)

Office of Finance Controls and Procedures over the Combined Financial Reporting Combining Process

The Office of Finance is not responsible for the preparation, accuracy, or adequacy of the information or financial data provided by the FHLBanks to the Office of Finance for use in preparing the combined financial reports, or for the quality or effectiveness of the disclosure controls and procedures or internal control over financial reporting of the FHLBanks as they relate to that information and financial data. Each FHLBank is responsible for establishing and maintaining disclosure controls and procedures and internal control over financial reporting with respect to the information and financial data provided to the Office of Finance. Although the Office of Finance is not an SEC registrant, FHFA regulations require that the combined financial report form and content generally be consistent with SEC Regulations S-K and S-X, as interpreted by the FHFA. The Office of Finance is not required to establish and maintain, and in light of the nature of its role has not established and maintained, disclosure controls and procedures and internal control over financial reporting in the same manner as those maintained by each FHLBank. The Office of Finance has established controls and procedures concerning the FHLBanks' submission of information and financial data to the Office of Finance, the process of combining the financial statements and other financial information of the individual FHLBanks, and the review of that information.

The Office of Finance does not independently verify the financial information submitted by each FHLBank that comprise the combined financial statements, the condensed combining schedules, and other disclosures included in this Combined Financial Report. Instead, the Office of Finance relies on each FHLBank management's certification and representation regarding the accuracy and completeness, in all material respects, of its data submitted to the Office of Finance for use in preparing this Combined Financial Report.

Audit Committee Charter

The charter of the audit committee of the Office of Finance's board of directors is available on the Office of Finance's web site at www.fhlb-of.com. This web site address is provided as a matter of convenience only, and its contents are not made part of this report and are not intended to be incorporated by reference into this report.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Each FHLBank is a member-owned cooperative, whose members elect a majority of that FHLBank's directors from among the officers and directors of its members. The FHLBanks conduct their advances and mortgage loan business primarily with members. As a result, in the normal course of business, the FHLBanks regularly extend credit to members whose officers and/or directors may serve as directors of the FHLBanks and members (or affiliates) owning more than 5% of an FHLBank's capital stock. This credit is extended on market terms that are no more favorable to these "related" members than comparable transactions with other members of the same FHLBank. As of December 31, 2015, the FHLBanks had $59.5 billion of advances outstanding to members whose officers and/or directors were serving as directors of the FHLBanks, which represented 9.4% of total advances at par value. (See *Market for Capital Stock and Related Stockholder Matters* and *Financial Discussion and Analysis - Combined Financial Condition - Advances* for additional information on FHLBank advances and membership.)

An FHLBank provides Affordable Housing Program subsidies in the form of direct grants and below-market interest rate advances to members, which use the funds to assist in the purchase, construction, or rehabilitation of housing for very low-, low-, and moderate-income households. Only FHLBank members, along with their non-member Affordable Housing Program project sponsors, may submit Affordable Housing Program applications. All Affordable Housing Program subsidies are made in the normal course of business.

An FHLBank also provides subsidies in the form of grants and below-market interest rate advances or standby letters of credit to members for community lending and economic development projects under the Community Investment Program and Community Investment Cash Advance programs. Only FHLBank members may submit applications for these credit program subsidies. These subsidies are made in the normal course of business.

In instances where an Affordable Housing Program, Community Investment Program, or Community Investment Cash Advance transaction involves a member (or its affiliate) owning more than 5% of an FHLBank's capital stock, a member with an officer or director who serves as a director of an FHLBank, or an entity with an officer, director, or general partner who serves as a director of an FHLBank (and has a direct or indirect interest in the subsidy), the transaction is subject to the same eligibility and other program criteria and requirements as all other transactions, and the regulations governing the operations of the relevant program.

An FHLBank may also have investments in interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, commercial paper, and certificates of deposit, and may also execute mortgage-backed securities and derivative transactions, with members or their affiliates, some of whose officers and/or directors may serve as directors of their respective FHLBank. All investments are transacted at then-current market prices without preference to the status of the counterparty or the issuer of the investment as a member, non-member, or affiliate. (See each FHLBank's 2015 SEC Form 10-K under *Item 13—Certain Relationships and Related Transactions, and Director Independence* for additional information regarding related transactions with its members.)

PRINCIPAL ACCOUNTING FEES AND SERVICES

Each of the audit committees of the FHLBanks and the Office of Finance pre-approve audit and non-audit services provided by the principal independent public accountant to the entity it oversees. Also, each audit committee annually considers whether the services identified under the caption "all other fees" and rendered to the entity it oversees are compatible with maintaining the principal accountant's independence. Table 66 presents the aggregate fees billed or to be billed to the FHLBanks and the Office of Finance by their principal independent public accountant, PricewaterhouseCoopers LLP.

Table 66 - Principal Accounting Fees and Services
(dollars in millions)

	Year Ended December 31,	
	2015	2014
Audit fees(1)	$ 10	$ 10
Audit-related fees(2)	1	1
Tax fees	—	—
All other fees(3)	—	—
Total fees	$ 11	$ 11

(1) Audit fees consist of fees incurred in connection with the annual audits and quarterly reviews of the FHLBanks' individual and combined financial statements, including audits of internal controls over financial reporting, and for the review of related financial information.
(2) Audit-related fees primarily consist of assurance and related services for accounting consultations and combined audit central team services.
(3) All other fees consist of services rendered for non-financial information system related consulting. No fees were paid to the principal independent public accountant for financial information system design and implementation.

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OFFICE OF FINANCE AUDIT COMMITTEE REPORT

By Federal Housing Finance Agency (FHFA) regulation, the Audit Committee of the Office of Finance Board of Directors performs oversight duties in connection with the preparation of the combined financial report of the Federal Home Loan Banks (FHLBanks), which includes the audited combined financial statements of the FHLBanks. The Audit Committee is comprised of five independent directors not employed by an FHLBank or the Office of Finance; who were selected by the Office of Finance Board of Directors, subject to review by the FHFA; and who as a group must have substantial experience in financial and accounting matters. In connection with its duties, the Audit Committee has adopted a written charter, which has been posted on the Office of Finance web site. The Audit Committee members are not required to satisfy any express qualification or independence standards governing their service as audit committee members that are separate and distinct from their qualifications to serve as members of the Office of Finance Board of Directors.

There is no system-wide centralized management of the FHLBanks. Each FHLBank is a separately chartered entity and has its own board of directors and management. Each FHLBank's board of directors has established an audit committee, the members of which are required to meet express qualification and independence standards established by the FHFA and the audit committee independence requirements set forth in Section 10A(m) of the Securities Exchange Act of 1934, as amended. For disclosure purposes, each FHLBank is required to identify audit committee members who may not be considered "independent" based on corporate governance standards of independence used by the FHLBanks as required under Securities and Exchange Commission rules and regulations. In addition, each FHLBank's board of directors and management is responsible for establishing its own accounting and financial reporting policies in accordance with accounting principles generally accepted in the United States of America. Each FHLBank is subject to certain reporting requirements of the Securities Exchange Act of 1934, as amended, and must file periodic reports and other information including annual audited financial statements with the Securities and Exchange Commission. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report.*)

In connection with its responsibilities in preparing combined financial reports and combined financial statements, the Office of Finance is responsible for combining the financial information it receives from each of the FHLBanks. Each FHLBank is responsible for the financial information and the underlying data it provides to the Office of Finance for inclusion in the combined financial reports and combined financial statements. Based on FHFA regulation and guidance related to the combined financial reports, the Audit Committee's responsibilities are limited to the oversight of the preparation of the combined financial reports with regard to the basis and approach to combining information from the FHLBanks. The Audit Committee is responsible for ensuring that the FHLBanks adopt consistent accounting policies and procedures to the extent necessary for information submitted by the FHLBanks to the Office of Finance to be combined to create accurate and meaningful combined financial reports. However, the Audit Committee is not responsible for overseeing the reliability and integrity of the accounting policies and financial reporting of the individual FHLBanks or the accuracy of the information that they submit to the Office of Finance.

The Audit Committee has reviewed and discussed the audited combined financial statements with senior management of the Office of Finance, and discussed with the independent accountant the matters required to be discussed in accordance with auditing standards generally accepted in the United States of America.

The Audit Committee has also received the written disclosures from the independent accountant required to be disclosed in accordance with auditing standards generally accepted in the United States of America regarding the independent accountant's communications with the Audit Committee concerning independence, and has discussed with the independent accountant their independence.

Based on the review and discussions referred to above, the Audit Committee of the Office of Finance Board of Directors determined to include the audited combined financial statements in the FHLBanks' Combined Financial Report for the Year Ended December 31, 2015.

Patricia A. Oelrich, Chair
Jonathan A. Scott, Vice-Chair
J. Michael Davis
Janice C. Eberly
Kathleen C. McKinney

March 25, 2016

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of the Federal Home Loan Banks Office of Finance:

We have audited the accompanying combined financial statements of the Federal Home Loan Banks (FHLBanks), which comprise the combined statements of condition as of December 31, 2015 and 2014, and the related combined statements of income, comprehensive income, capital, and cash flows for each of the years in the three-year period ended December 31, 2015.

Management's Responsibility for the Combined Financial Statements

Management of the FHLBanks Office of Finance (OF) and the FHLBanks are responsible for the preparation and fair presentation of the combined financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the combined financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the combined financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the combined financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the combined financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the combined financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the OF's and the FHLBanks' preparation and fair presentation of the combined financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the combined financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the combined financial position of the FHLBanks at December 31, 2015 and 2014, and the combined results of their operations and their combined cash flows for each of the years in the three-year period ended December 31, 2015, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

Our audits were conducted for the purpose of forming an opinion on the combined financial statements taken as a whole. The condensed combining information shown on pages F-82 to F-99 is the responsibility of management of the OF and the FHLBanks and was derived from and relates directly to the underlying accounting and other records used to prepare the combined financial statements. The condensed combining information has been subjected to the auditing procedures applied in the audit of the combined financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the combined financial statements or to the combined financial statements themselves, and other additional procedures, in accordance with auditing standards generally accepted in the United States of America. In our opinion, the condensed combining information is fairly stated, in all material respects, in relation to the combined financial statements taken as a whole. The condensed combining information is presented for purposes of additional analysis of the combined financial statements rather than to present the financial position, results of operations, and cash flows of the individual FHLBanks and is not a required part of the combined financial statements.

PricewaterhouseCoopers LLP

McLean, Virginia
March 25, 2016

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CONDITION

(dollars in millions, except par value)	December 31, 2015	December 31, 2014
Assets		
Cash and due from banks *(Note 4)*	$ 14,289	$ 26,421
Interest-bearing deposits	1,836	1,569
Securities purchased under agreements to resell	47,827	25,419
Federal funds sold	42,380	52,773
Investment securities		
Trading securities, includes $62 and $71 pledged as collateral that may be repledged *(Note 5)*	10,760	9,600
Available-for-sale securities, includes $323 and $37 pledged as collateral that may be repledged *(Note 6)*	75,916	75,008
Held-to-maturity securities, includes $51 and $77 pledged as collateral that may be repledged, fair value of $96,123 and $107,839 *(Note 7)*	94,965	105,848
Total investment securities	181,641	190,456
Advances, includes $13,744 and $20,890 at fair value held under fair value option *(Note 9)*	634,022	570,726
Mortgage loans held for portfolio, net		
Mortgage loans held for portfolio *(Note 10)*	44,603	43,615
Allowance for credit losses on mortgage loans *(Note 11)*	(18)	(52)
Total mortgage loans held for portfolio, net	44,585	43,563
Accrued interest receivable	1,112	1,095
Premises, software, and equipment, net	217	222
Derivative assets, net *(Note 12)*	755	500
Other assets	689	599
Total assets	$ 969,353	$ 913,343
Liabilities		
Deposits *(Note 13)*	$ 8,533	$ 9,064
Consolidated obligations *(Note 14)*		
Discount notes, includes $21,478 and $10,189 at fair value held under fair value option	494,055	362,303
Bonds, includes $20,735 and $34,734 at fair value held under fair value option	411,927	486,031
Total consolidated obligations	905,982	848,334
Mandatorily redeemable capital stock	745	2,631
Accrued interest payable	986	1,110
Affordable Housing Program payable *(Note 15)*	841	794
Derivative liabilities, net *(Note 12)*	1,131	1,599
Other liabilities	2,121	1,864
Subordinated notes *(Note 16)*	944	944
Total liabilities	921,283	866,340
Commitments and contingencies *(Note 21)*		
Capital *(Note 17)*		
Capital stock		
Class B putable ($100 par value) issued and outstanding shares: 340,049,634 and 334,638,206	34,005	33,464
Class A putable ($100 par value) issued and outstanding shares: 1,796,836 and 2,414,693	180	241
Total capital stock	34,185	33,705
Additional capital from merger	194	—
Retained earnings		
Unrestricted	10,473	9,736
Restricted	3,852	3,508
Total retained earnings	14,325	13,244
Accumulated other comprehensive income (loss) *(Note 18)*	(634)	54
Total capital	48,070	47,003
Total liabilities and capital	$ 969,353	$ 913,343

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF INCOME

(dollars in millions)	Year Ended December 31, 2015	2014	2013
Interest income			
Advances	$ 2,794	$ 2,541	$ 2,559
Prepayment fees on advances, net	179	79	138
Interest-bearing deposits	11	9	11
Securities purchased under agreements to resell	33	17	24
Federal funds sold	84	60	67
Investment securities			
Trading securities	182	187	207
Available-for-sale securities	1,439	1,396	1,374
Held-to-maturity securities	1,803	2,036	2,164
Total investment securities	3,424	3,619	3,745
Mortgage loans held for portfolio	1,631	1,705	1,852
Other	—	2	2
Total interest income	8,156	8,032	8,398
Interest expense			
Consolidated obligations			
Discount notes	825	536	511
Bonds	3,650	3,779	4,248
Total consolidated obligations	4,475	4,315	4,759
Deposits	4	3	4
Subordinated notes	54	54	57
Mandatorily redeemable capital stock	75	138	178
Total interest expense	4,608	4,510	4,998
Net interest income	3,548	3,522	3,400
Provision (reversal) for credit losses	4	(21)	(19)
Net interest income after provision (reversal) for credit losses	3,544	3,543	3,419
Non-interest income			
Other-than-temporary impairment losses			
Total other-than-temporary impairment losses	(36)	(17)	(16)
Net amount of impairment losses reclassified to/(from) accumulated other comprehensive income (loss)	(42)	2	1
Net other-than-temporary impairment losses	(78)	(15)	(15)
Net gains (losses) on trading securities	(131)	(17)	(284)
Net realized gains (losses) from sale of available-for-sale securities	60	1	21
Net realized gains (losses) from sale of held-to-maturity securities	15	9	—
Net gains (losses) on financial instruments held under fair value option	(31)	(76)	(18)
Net gains (losses) on derivatives and hedging activities	182	(148)	416
Gains on litigation settlements, net	688	135	202
Net gains (losses) on debt extinguishments	(4)	—	(103)
Other, net	142	128	110
Total non-interest income (loss)	843	17	329
Non-interest expense			
Compensation and benefits	637	559	544
Other operating expenses	448	373	345
Federal Housing Finance Agency	59	58	52
Office of Finance	46	43	44
Other	9	13	(42)
Total non-interest expense	1,199	1,046	943
Net income before assessments	3,188	2,514	2,805
Affordable Housing Program assessments	332	269	293
Net income	$ 2,856	$ 2,245	$ 2,512

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF COMPREHENSIVE INCOME

(dollars in millions)	Year Ended December 31, 2015	2014	2013
Net income	$ 2,856	$ 2,245	$ 2,512
Other comprehensive income			
Net unrealized gains/losses on available-for-sale securities			
Unrealized gains (losses)	(778)	199	(806)
Reclassification of realized net (gains) losses included in net income	(8)	(1)	(3)
Total net unrealized gains/losses on available-for-sale securities	(786)	198	(809)
Net unrealized gains/losses on held-to-maturity securities transferred from available-for-sale securities			
Reclassification of (gains) losses included in net income	—	—	2
Total net unrealized gains/losses on held-to-maturity securities transferred from available-for-sale securities	—	—	2
Net non-credit portion of other-than-temporary impairment losses on available-for-sale securities			
Non-credit portion of other-than-temporary impairment losses transferred from held-to-maturity securities	(14)	—	(5)
Net change in fair value of other-than-temporarily impaired securities	(84)	277	1,108
Net amount of impairment losses reclassified to (from) non-interest income	42	(3)	1
Reclassification of (gains) losses included in net income	(52)	—	(18)
Total net non-credit portion of other-than-temporary impairment losses on available-for-sale securities	(108)	274	1,086
Net non-credit portion of other-than-temporary impairment losses on held-to-maturity securities			
Net amount of impairment losses reclassified to (from) non-interest income	—	1	(2)
Accretion of non-credit portion	114	133	153
Non-credit portion of other-than-temporary impairment losses transferred to available-for-sale securities	14	—	5
Total net non-credit portion of other-than-temporary impairment losses on held-to-maturity securities	128	134	156
Net unrealized gains/losses relating to hedging activities			
Unrealized gains (losses)	104	(5)	540
Reclassification of (gains) losses included in net income	19	4	(7)
Total net unrealized gains/losses relating to hedging activities	123	(1)	533
Pension and postretirement benefits	6	(40)	31
Total other comprehensive income (loss)	(637)	565	999
Comprehensive income	$ 2,219	$ 2,810	$ 3,511

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CAPITAL
YEAR ENDED DECEMBER 31, 2015, 2014 AND 2013

	Capital Stock - Putable			
	Class B		Class A	
(dollars and shares in millions)	Shares	Par Value	Shares	Par Value
Balance, December 31, 2012	332	$ 33,021	5	$ 514
Proceeds from issuance of capital stock	167	16,696	—	1
Repurchases/redemptions of capital stock	(146)	(14,609)	(2)	(184)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(20)	(1,970)	(1)	(131)
Transfers between Class B and Class A shares	(3)	(275)	3	275
Comprehensive income (loss)	—	—	—	—
Dividends on capital stock				
Cash	—	—	—	—
Stock	—	37	—	—
Balance, December 31, 2013	330	32,900	5	475
Proceeds from issuance of capital stock	173	17,303	—	2
Repurchases/redemptions of capital stock	(157)	(15,715)	(7)	(706)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(6)	(570)	—	(35)
Transfers between Class B and Class A shares	(5)	(505)	5	505
Comprehensive income (loss)	—	—	—	—
Dividends on capital stock				
Cash	—	—	—	—
Stock	—	51	—	—
Balance, December 31, 2014	335	33,464	3	241
Proceeds from issuance of capital stock	210	20,960	—	2
Capital stock issued from merger	9	863	—	31
Repurchases/redemptions of capital stock	(191)	(19,023)	(6)	(494)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(10)	(1,016)	—	(22)
Transfers between Class B and Class A shares	(5)	(453)	5	453
Additional capital from merger	—	—	—	—
Comprehensive income (loss)	—	—	—	—
Transfers to/(from) restricted retained earnings	—	—	—	—
Capital stock canceled and other merger activity	(9)	(863)	—	(31)
Dividends on capital stock				
Cash	—	—	—	—
Stock	1	73	—	—
Balance, December 31, 2015	340	$ 34,005	2	$ 180

Capital Stock - Putable							
Total		Additional Capital from Merger	Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
Shares	Par Value		Unrestricted	Restricted	Total		
337	$ 33,535	$ —	$ 7,926	$ 2,589	$ 10,515	$ (1,510)	$ 42,540
167	16,697	—	—	—	—	—	16,697
(148)	(14,793)	—	—	—	—	—	(14,793)
(21)	(2,101)	—	—	—	—	—	(2,101)
—	—	—	—	—	—	—	—
—	—	—	1,997	515	2,512	999	3,511
		—					
—	—	—	(806)	—	(806)	—	(806)
—	37	—	(37)	—	(37)	—	—
335	33,375	—	9,080	3,104	12,184	(511)	45,048
173	17,305	—	—	—	—	—	17,305
(164)	(16,421)	—	—	—	—	—	(16,421)
(6)	(605)	—	—	—	—	—	(605)
—	—	—	—	—	—	—	—
—	—	—	1,841	404	2,245	565	2,810
		—					
—	—	—	(1,134)	—	(1,134)	—	(1,134)
—	51	—	(51)	—	(51)	—	—
338	33,705	—	9,736	3,508	13,244	54	47,003
210	20,962	—	—	—	—	—	20,962
9	894	—	—	—	—	—	894
(197)	(19,517)	—	—	—	—	—	(19,517)
(10)	(1,038)	—	—	—	—	—	(1,038)
—	—	—	—	—	—	—	—
—	—	246	—	—	—	—	246
—	—	—	2,299	557	2,856	(637)	2,219
—	—	—	150	(150)	—	—	—
(9)	(894)	—	(250)	(63)	(313)	(51)	(1,258)
		—					
—	—	(52)	(1,389)	—	(1,389)	—	(1,441)
1	73	—	(73)	—	(73)	—	—
342	$ 34,185	$ 194	$ 10,473	$ 3,852	$ 14,325	$ (634)	$ 48,070

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CASH FLOWS

	Year Ended December 31,		
(dollars in millions)	2015	2014	2013
Operating activities			
Net income	$ 2,856	$ 2,245	$ 2,512
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation and amortization	(18)	(172)	(8)
Net change in derivatives and hedging activities	905	997	869
Net other-than-temporary impairment losses	78	15	15
Other adjustments	(65)	(69)	163
Net change in fair value adjustments on trading securities	131	40	279
Net change in fair value adjustments on financial instruments held under fair value option	31	76	18
Net change in			
Trading securities	(114)	(53)	123
Accrued interest receivable	(27)	47	99
Other assets	(121)	(68)	(182)
Accrued interest payable	(132)	(40)	(249)
Other liabilities	340	31	91
Total adjustments	1,008	804	1,218
Net cash provided by (used in) operating activities	3,864	3,049	3,730
Investing activities			
Net change in			
Interest-bearing deposits	628	(145)	3,056
Securities purchased under agreements to resell	(22,408)	(5,069)	15,489
Federal funds sold	10,393	(23,273)	14,510
Premises, software, and equipment	(57)	(49)	(75)
Trading securities			
Net decrease (increase) in short-term	196	860	(874)
Proceeds from long-term	4,356	5,827	3,713
Purchases of long-term	(4,913)	(4,578)	(4,288)
Available-for-sale securities			
Net decrease (increase) in short-term	889	835	(2,185)
Proceeds from long-term	13,747	9,181	14,299
Purchases of long-term	(14,164)	(14,942)	(15,910)
Held-to-maturity securities			
Net decrease (increase) in short-term	222	1,437	1,109
Proceeds from long-term	21,770	16,414	24,504
Purchases of long-term	(14,098)	(11,968)	(28,412)
Advances			
Principal collected	5,359,730	4,602,200	3,409,729
Made	(5,425,265)	(4,675,304)	(3,488,649)
Mortgage loans held for portfolio			
Principal collected	8,051	6,995	11,560
Purchases	(9,218)	(6,237)	(6,778)
Proceeds from sales of foreclosed assets	103	163	191
Principal collected on other loans	2	2	2
Net cash provided by (used in) investing activities	(70,036)	(97,651)	(49,009)

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CASH FLOWS (continued)

	Year Ended December 31,		
(dollars in millions)	2015	2014	2013
Financing activities			
Net change in			
Deposits and pass-through reserves	$ (59)	$ (1,266)	$ (2,797)
Net proceeds (payments) on derivative contracts with financing element	(703)	(798)	(814)
Net proceeds from issuance of consolidated obligations			
Discount notes	3,553,414	3,969,949	3,099,326
Bonds	304,426	348,749	341,475
Payments for maturing and retiring consolidated obligations			
Discount notes	(3,421,830)	(3,900,963)	(3,022,323)
Bonds	(378,287)	(337,198)	(339,380)
Payments for retirement of subordinated notes	—	—	(62)
Proceeds from issuance of capital stock	20,962	17,305	16,697
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(2,925)	(2,973)	(4,031)
Payments for repurchases/redemptions of capital stock	(19,517)	(16,421)	(14,793)
Cash dividends paid	(1,441)	(1,134)	(806)
Net cash provided by (used in) financing activities	54,040	75,250	72,492
Net increase (decrease) in cash and due from banks	(12,132)	(19,352)	27,213
Cash and due from banks at beginning of the period	26,421	45,773	18,560
Cash and due from banks at end of the period	$ 14,289	$ 26,421	$ 45,773
Supplemental disclosures			
Interest paid	$ 5,296	$ 5,096	$ 5,668
Affordable Housing Program payments, net	$ 286	$ 263	$ 250
Transfers of mortgage loans to real estate owned	$ 74	$ 127	$ 170
Transfers of other-than-temporarily impaired held-to-maturity securities to available-for-sale securities	$ 88	$ —	$ 83
Non-cash merger activity, net	$ 118	$ —	$ —
Transfer of held-to-maturity securities to available-for-sale securities that are not other-than-temporarily impaired	$ 8,963	$ —	$ —

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

NOTES TO COMBINED FINANCIAL STATEMENTS

Background Information

These financial statements present the combined financial position and combined results of operations of the Federal Home Loan Banks (FHLBanks). The FHLBanks are government-sponsored enterprises (GSEs) that serve the public by enhancing the availability of credit for residential mortgages and targeted community development. They are financial cooperatives that provide a readily available, competitively-priced source of funds to their member institutions. All federally-insured depository institutions and insurance companies engaged in residential housing finance may apply for membership. Additionally, qualified community development financial institutions are eligible to be members of an FHLBank. Housing associates, including state and local housing authorities, that meet certain statutory and regulatory criteria may also borrow from the FHLBanks. While eligible to borrow, housing associates are not members of the FHLBanks. All members must purchase stock in their district's FHLBank. On a combined basis, member institutions own most of the FHLBanks' capital stock. Former members (including certain non-members that own FHLBank capital stock as a result of merger or acquisition, relocation, charter termination, or involuntary termination of an FHLBank member) own the remaining capital stock to support business transactions still carried on an FHLBank's statement of condition. All holders of an FHLBank's capital stock may, to the extent declared by that FHLBank's board of directors, receive dividends on their capital stock.

Each FHLBank operates as a separate entity with its own management, employees, and board of directors. The FHLBanks do not have any special purpose entities or any other type of off-balance sheet conduits.

The Federal Housing Finance Agency (FHFA) is the independent Federal regulator of the FHLBanks, Federal Home Loan Mortgage Corporation (Freddie Mac), and Federal National Mortgage Association (Fannie Mae). The FHFA's stated mission is to ensure that the housing GSEs operate in a safe and sound manner so that they serve as a reliable source of liquidity and funding for housing finance and community investment.

The Office of Finance is a joint office of the FHLBanks established to facilitate the issuance and servicing of the debt instruments of the FHLBanks, known as consolidated obligations (consolidated bonds and consolidated discount notes), and to prepare the quarterly and annual combined financial reports of the FHLBanks. As provided by the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), and applicable regulations, consolidated obligations are backed only by the financial resources of the FHLBanks. Consolidated obligations are the primary source of funds for the FHLBanks in addition to deposits, other borrowings, and capital stock issued to members. The FHLBanks primarily use these funds to provide advances to members. Certain FHLBanks also use these funds to acquire mortgage loans from members (acquired member assets) through their respective FHLBank's Mortgage Purchase Program (MPP) or the Mortgage Partnership Finance® (MPF®) Program. "Mortgage Partnership Finance," "MPF," and "MPF Xtra" are registered trademarks of the FHLBank of Chicago. In addition, some FHLBanks offer correspondent services to their member institutions, including wire transfer, security safekeeping, and settlement services.

Unless otherwise stated, dollar amounts disclosed in this Combined Financial Report represent values rounded to the nearest million. Dollar amounts rounding to less than one million are not reflected in this Combined Financial Report.

FHLBanks of Des Moines and Seattle Merger

Effective May 31, 2015, the FHLBank of Des Moines and the FHLBank of Seattle completed the previously announced merger pursuant to the definitive merger agreement, dated September 25, 2014. At closing, the FHLBank of Seattle merged with and into the FHLBank of Des Moines, with the FHLBank of Des Moines surviving the merger as the continuing FHLBank. The first date of operations for the combined FHLBank was June 1, 2015. Thus, the combined statements of income, comprehensive income, capital, and cash flows, along with the supporting condensed combining schedules, for the period ended December 31, 2015, reflect the FHLBank of Seattle's activities through May 31, 2015. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* for additional information regarding the merger.)

Note 1 - Summary of Significant Accounting Policies

Basis of Presentation

These combined financial statements include the financial statements and records of the FHLBanks that are prepared in accordance with generally accepted accounting principles in the United States of America (GAAP).

Principles of Combination. Transactions between the FHLBanks have been eliminated in accordance with combination accounting principles similar to consolidation under GAAP. The most significant transactions between the FHLBanks are:

1. *Transfers of Direct Liability on Consolidated Bonds between FHLBanks.* These transfers occur when the primary obligation under consolidated bonds issued on behalf of one FHLBank are transferred to and assumed by another FHLBank. The transferring FHLBank treats the transfer as a debt extinguishment because it is released from being the primary obligor when the Office of Finance records the transfer, pursuant to its duties under applicable regulations. The assuming FHLBank then becomes the primary obligor while the transferring FHLBank has a contingent liability because it still has joint and several liability with respect to repaying the transferred consolidated bonds.

   The FHLBank assuming the consolidated bond liability initially records the consolidated bond at fair value, which represents the amount paid to the assuming FHLBank by the transferring FHLBank to assume the debt. A premium or discount exists for the amount paid above or below par. Because these transfers represent inter-company transfers under combination accounting principles, an inter-company elimination is made for any gain or loss on transfer. As a result, the subsequent amortization of premium or discount, amortization of concession fees, and recognition of hedging-related adjustments in the combined financial statements represent those of the transferring FHLBank.

2. *Purchases of Consolidated Bonds.* These purchases occur when consolidated bonds issued on behalf of one FHLBank are purchased by another FHLBank in the open market. All purchase transactions occur at market prices with third parties and the purchasing FHLBanks treat these consolidated bonds as investments. Under combination accounting principles, the investment and the consolidated bonds, and related contractual interest income and expense, are eliminated in combination.

No other transactions among the FHLBanks had a material effect on operating results. (See the *Condensed Combining Schedules* for the combining adjustments made to the combined financial statements.)

Segment Reporting. FHFA regulations consider each FHLBank to be a segment. However, there is no single chief operating decision maker because there is no centralized, system-wide management or centralized board of director oversight of the individual FHLBanks. (See the *Condensed Combining Schedules* for segment information.)

Reclassifications and Revisions to Prior Period Amounts. Certain amounts in the 2014 and 2013 combined financial statements have been reclassified or revised to conform to the financial statement presentation for the year ended December 31, 2015. Additionally, certain other prior period amounts have been revised and may not agree to the Federal Home Loan Banks Combined Financial Report for the years ended December 31, 2014 and 2013. These amounts were not deemed to be material.

Subsequent Events. For purposes of this Combined Financial Report, subsequent events have been evaluated from January 1, 2016, through the time of publication. (See *Note 22 - Subsequent Events* for more information.)

Significant Accounting Policies

The following summary of significant accounting policies has been compiled from the FHLBanks' individual summaries of significant accounting policies. While the FHLBanks' accounting and financial reporting policies are not necessarily always identical, each FHLBank is responsible for establishing its own accounting and financial reporting policies in accordance with GAAP. The following paragraphs describe the more significant accounting policies followed by the FHLBanks, including the more notable alternatives acceptable under GAAP.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires each FHLBank's management to make subjective assumptions and estimates that may affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expense. The most significant of these estimates include the determination of other-than-temporary impairments of certain mortgage-backed securities (MBS) and fair value of derivatives, certain advances, certain investment securities, and certain consolidated obligations that are reported at fair value on the Combined Statement of Condition. Actual results could differ from these estimates significantly.

Fair Value. The fair value amounts, recorded on the Combined Statement of Condition and in the footnotes for the periods presented, have been determined by the FHLBanks using available market and other pertinent information, and reflect each FHLBank's best judgment of appropriate valuation methods. Although an FHLBank 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. (See *Note 20 - Fair Value* for more information.)

Financial Instruments Meeting Netting Requirements

The FHLBanks present certain financial instruments on a net basis when they have a legal right of offset and all other requirements for netting are met (collectively referred to as the netting requirements). For these financial instruments, each of the affected FHLBanks has elected to offset its asset and liability positions, as well as cash collateral received or pledged, when it has met the netting requirements.

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. Likewise, there may be a delay for excess collateral to be returned. For derivative instruments that meet the netting requirements, any excess cash collateral received or pledged is recognized as a derivative liability or derivative asset. (See *Note 12 - Derivatives and Hedging Activities* for additional information regarding these agreements.)

At December 31, 2015 and 2014, the FHLBanks had $47,827 million and $25,419 million in securities purchased under agreements to resell. Based on the fair value of the related collateral held, the securities purchased under agreements to resell were fully collateralized for the periods presented. There were no offsetting liabilities related to these securities at December 31, 2015 and 2014.

Interest-Bearing Deposits, Securities Purchased under Agreements to Resell, and Federal Funds Sold

These investments provide short-term liquidity and are carried at cost. Interest-bearing deposits include certificates of deposit and bank notes not meeting the definition of a security. The FHLBanks treat securities purchased under agreements to resell as short-term collateralized loans that are classified as assets on the Combined Statement of Condition. Securities purchased under agreements to resell are held in safekeeping in the name of the affected FHLBank by third-party custodians approved by that FHLBank. If the fair value of the underlying securities decreases 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 FHLBank or (2) remit an equivalent amount of cash. Federal funds sold consist of short-term, unsecured loans generally transacted with counterparties that are considered by an FHLBank to be of investment quality.

Investment Securities

The FHLBanks classify investment securities as trading, available-for-sale (AFS), and held-to-maturity (HTM) at the date of acquisition. Purchases and sales of securities are recorded on a trade date basis.

Trading. Securities classified as trading are held for liquidity purposes and carried at fair value. The FHLBanks record changes in the fair value of these securities through non-interest income as net gains (losses) on trading securities. FHFA regulation and each FHLBank's risk management policy prohibit trading in or the speculative use of these instruments and limit credit risk arising from these instruments.

Available-for-Sale. Securities that are not classified as HTM or trading are classified as AFS and are carried at fair value. The FHLBanks record changes in the fair value of these securities in other comprehensive income (loss) (OCI) as net unrealized gains (losses) on available-for-sale securities. For AFS securities that have been hedged and qualify as a fair value hedge, the

FHLBanks record the portion of the change in value related to the risk being hedged in non-interest income as net gains (losses) on derivatives and hedging activities together with the related change in the fair value of the derivative, and record the remainder of the change in the fair value of the investment in OCI as net unrealized gains (losses) on available-for-sale securities. For AFS securities that have been hedged and qualify as a cash flow hedge, the FHLBanks record the effective portion of the change in value of the derivative related to the risk being hedged in OCI as net unrealized gains (losses) relating to hedging activities. The ineffective portion is recorded in non-interest income and presented as net gains (losses) on derivatives and hedging activities.

Held-to-Maturity. Securities that the FHLBanks have both the ability and intent to hold to maturity are classified as HTM and are carried at cost adjusted for periodic principal repayments, amortization of premiums and accretion of discounts, previous other-than-temporary impairment (OTTI), and accretion of the non-credit portion of OTTI recognized in OCI.

Certain changes in circumstances may cause an FHLBank to change its intent to hold a security to maturity without calling into question its intent to hold other debt securities to maturity in the future. Thus, the sale or transfer of an HTM security due to certain changes in circumstances, such as evidence of significant deterioration in the issuer's creditworthiness or changes in regulatory requirements, is not considered to be inconsistent with its original classification. Other events that are isolated, nonrecurring, and unusual for the FHLBanks that could not have been reasonably anticipated may cause an FHLBank to sell or transfer an HTM security without necessarily calling into question its intent to hold other debt securities to maturity. In addition, sale of a debt security that meets either of the following two conditions would not be considered inconsistent with the original classification of that security:

1. the sale occurs near enough to its maturity date (or call date if exercise of the call is probable) that interest-rate risk is substantially eliminated as a pricing factor and the changes in market interest rates would not have a significant effect on the security's fair value; or

2. the sale of a security occurs after an FHLBank has already collected a substantial portion (at least 85 percent) of the principal outstanding at acquisition due either to prepayments on the debt security or to scheduled payments on a debt security payable in equal installments (both principal and interest) over its term.

Premiums and Discounts. The FHLBanks amortize purchased premiums and accrete purchased discounts on investment securities using either the contractual level-yield (contractual interest method) or the retrospective level-yield (retrospective interest method) over the estimated cash flows of the securities. 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 retrospective interest method requires that an FHLBank estimate prepayments over the estimated life of the securities and make a retrospective adjustment of the effective yield each time that it changes the estimated life as if the new estimate had been known since the original acquisition date of the securities.

Gains and Losses on Sales. Each FHLBank computes gains and losses on sales of its investment securities using the specific identification method and includes these gains and losses in non-interest income (loss).

Investment Securities - Other-than-Temporary Impairment

Each FHLBank evaluates its individual AFS and HTM securities in unrealized loss positions for OTTI on a quarterly basis. A security is considered impaired (i.e., in an unrealized loss position) when its fair value is less than its amortized cost. An FHLBank considers an OTTI to have occurred under any of the following conditions:

- It has an intent to sell the impaired debt security;
- If, based on available evidence, it 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; or
- It does not expect to recover the entire amortized cost of the impaired debt security.

Recognition of OTTI. If either of these first two conditions is met, an FHLBank recognizes an OTTI charge in earnings equal to the entire difference between the security's amortized cost and its fair value as of the statement of condition date. For securities in an unrealized loss position that do not meet either of these conditions, the entire loss position, or total OTTI, is evaluated to determine the extent and amount of credit loss.

To determine whether a credit loss exists, each FHLBank performs an analysis, which includes a cash flow analysis for private-label MBS, to determine if it will recover the entire amortized cost of each of these securities. The present value of the cash flows expected to be collected is compared to the amortized cost of the debt security. If there is a credit loss (the difference between the present value of the cash flows expected to be collected and the amortized cost 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 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 OCI. The credit loss on a debt security is limited to the amount of that security's unrealized losses.

The total OTTI is presented on the statement of income with an offset for the amount of the non-credit portion of OTTI that is recognized in OCI. The remaining amount on the statement of income represents the credit loss for the period.

Accounting for OTTI Recognized in OCI. For subsequent accounting of an other-than-temporarily impaired security, an FHLBank records an additional OTTI 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 OTTI (both credit and non-credit component, if any) is determined as the difference between the security's amortized cost less the amount of OTTI recognized in OCI prior to the determination of this additional OTTI 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 statement of condition date. This additional credit loss, up to the amount in OCI related to the security, is reclassified out of OCI and recognized in earnings. Any credit loss in excess of the related OCI is also recognized in earnings.

Subsequent related increases and decreases (if not an additional OTTI) in the fair value of AFS securities are netted against the non-credit component of OTTI recognized previously in OCI. For HTM securities, if the current carrying value is less than its current fair value, the carrying value of the security is not increased. However, the OTTI recognized in OCI for HTM securities is accreted to the carrying value of each security on a prospective basis, based on the amount and timing of future estimated cash flows (with no effect on earnings unless the security is subsequently sold or there are additional decreases in cash flows expected to be collected). For debt securities classified as AFS, the FHLBanks do not accrete the OTTI recognized in OCI to the carrying value because the subsequent measurement basis for these securities is fair value.

Interest Income Recognition. When a security has been other-than-temporarily impaired, a new accretable yield is calculated for that security at its impairment measurement date. This adjusted yield is used to calculate the interest income recognized over the remaining life of that security, matching the amount and timing of its estimated future collectible cash flows. Subsequent to that security's initial OTTI, an FHLBank re-evaluates estimated future collectible cash flows on a quarterly basis. If the security has no additional OTTI based on this evaluation, the accretable yield is reassessed for possible adjustment on a prospective basis. Depending on an FHLBank's accounting method, the accretable yield is adjusted if there is either: (1) a significant increase in the security's expected cash flows or (2) a favorable or unfavorable change in the timing and amount of the security's expected cash flows.

Variable Interest Entities

Certain FHLBanks have investments in variable interest entities (VIEs) that include, but are not limited to, senior interests in private-label MBS and asset-backed securities (ABS). The carrying amounts and classification of the assets that relate to the FHLBanks' investments in VIEs are included in investment securities on the Combined Statement of Condition. The affected FHLBanks have no liabilities related to these VIEs. The maximum loss exposure for these VIEs is limited to the FHLBanks' investments in the VIEs.

If an FHLBank determines it is the primary beneficiary of a VIE, it would be required to consolidate that VIE. On an ongoing basis, each affected FHLBank performs a quarterly evaluation to determine whether it is the primary beneficiary in any VIE. To perform this evaluation, an FHLBank considers whether it possesses both of the following characteristics:

- the power to direct the VIE's activities that most significantly affect the VIE's economic performance; and
- the obligation to absorb the VIE's losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

Based on an evaluation of these characteristics, each affected FHLBank has determined that consolidation is not required for its VIEs for the periods presented. In addition, each of these FHLBanks has not provided financial or other support (explicitly or implicitly) during the periods presented. Furthermore, each affected FHLBank was not previously contractually required to provide, nor does it intend to provide, that support in the future.

Advances

The FHLBanks report advances (secured loans to members, former members, or housing associates) either at amortized cost or at fair value when the fair value option is elected. Advances carried at amortized cost are reported net of premiums, discounts (including discounts related to the Affordable Housing Program (AHP)), unearned commitment fees, and hedging adjustments. The FHLBanks amortize or accrete premiums and discounts, and recognize unearned commitment fees and hedging adjustments, to interest income using a level-yield methodology. The FHLBanks record interest on advances to interest income as earned. For advances carried at fair value, interest income is recognized based on the contractual interest rate.

Advance Modifications. In cases in which an FHLBank funds a new advance concurrently with or within a short period of time before or after the prepayment of an existing advance, the FHLBank 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. The FHLBank compares the present value of cash flows on the new advance to the present value of cash flows remaining on the existing advance. If there is at least a 10 percent difference in the present value of cash flows or if the FHLBank concludes the difference between the advances is more than minor based on a qualitative assessment of the modifications made to the original contractual terms, then the advance is accounted for as a new advance. In all other instances, the new advance is accounted for as a modification.

Prepayment Fees. The FHLBanks charge a borrower a prepayment fee when the borrower prepays certain advances before the original maturity. The FHLBanks record prepayment fees net of basis adjustments related to hedging activities included in the carrying value of the advance as prepayment fees on advances, net in the interest income section of the Combined Statement of Income.

If a new advance does not qualify as a modification of an existing advance, the existing advance is treated as an advance termination and any prepayment fee, net of hedging adjustments, is recorded to prepayment fees on advances, net in the interest income section of the Combined Statement of Income.

If a new advance qualifies as a modification of an existing advance, any prepayment fee, net of hedging adjustments, is deferred, recorded in the basis of the modified advance, and amortized using a level-yield methodology over the life of the modified advance to advance interest income. If the modified advance is hedged and meets hedge accounting requirements, the modified advance is marked to benchmark or full fair value, depending on the risk being hedged, and subsequent fair value changes that are attributable to the hedged risk are recorded in non-interest income.

Mortgage Loans Held for Portfolio

Each FHLBank 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 premiums, discounts, deferred loan fees or costs, hedging adjustments, charge-offs, and the allowance for credit losses.

Premiums and Discounts. An FHLBank defers and amortizes premiums and accretes discounts paid to and received by participating financial institutions (PFIs), deferred loan fees or costs, and hedging basis adjustments to interest income using either the contractual interest method or the retrospective interest method. In determining prepayment estimates for the retrospective interest method, mortgage loans are aggregated by similar characteristics (type, maturity, note rate, and acquisition date).

Credit Enhancement Fees. For conventional mortgage loans, PFIs retain a portion of the credit risk on the loans they sell to the FHLBanks by providing credit enhancement either through a direct liability to pay credit losses up to a specified amount or through a contractual obligation to the FHLBanks. To secure this obligation, a PFI may either pledge collateral or purchase supplemental mortgage insurance (SMI). For certain mortgage loans purchased under the MPF Program, 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 an FHLBank experiences losses in a master commitment, it may be able to recapture performance-based CE Fees paid to that PFI to offset these losses.

Other Fees. The FHLBanks may receive other non-origination fees, such as delivery commitment extension fees, pair-off fees, and price adjustment fees. Delivery commitment extension fees are received when a PFI requests to extend the delivery commitment period beyond the original stated expiration. These fees compensate the FHLBanks for lost interest as a result of late funding and are recorded in non-interest income as received. Pair-off fees represent a make-whole provision; they are received when the amount funded is less than a specific percentage of the delivery commitment amount and are recorded in non-interest income. Price adjustment fees are received when the amount funded is greater than a specified percentage of the delivery commitment amount; they represent purchase price adjustments to the related loans acquired and are recorded as a part of the carrying value of the loans.

Allowance for Credit Losses

Establishing Allowance for Credit Losses. An allowance for credit losses is a valuation allowance separately established for each identified portfolio segment, if it is probable that impairment has occurred in an FHLBank's portfolio as of the statement of condition date and the amount of loss can be reasonably estimated. To the extent necessary, an allowance for credit losses for off-balance sheet credit exposures is recorded as a liability. (See *Note 11 - Allowance for Credit Losses* for details on each allowance methodology.)

Portfolio Segments. 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. Each FHLBank has developed and documented a systematic methodology for determining an allowance for credit losses, where applicable, for:

- credit products (advances, letters of credit, and other extensions of credit to borrowers);
- government-guaranteed or -insured mortgage loans held for portfolio;
- conventional MPF loans held for portfolio, conventional MPP loans held for portfolio, and other loans;
- term federal funds sold; and
- term securities purchased under agreements to resell.

Classes of Financing Receivables. Classes of financing receivables generally are a disaggregation of a portfolio segment to the extent that it is needed to understand the exposure to credit risk arising from these financing receivables. Each FHLBank determined that no further disaggregation of its portfolio segments is needed as the credit risk arising from these financing receivables is assessed and measured by that FHLBank at the portfolio segment level.

Non-accrual Loans. The FHLBanks place a conventional mortgage loan on non-accrual status if it is determined that either (1) the collection of interest or principal is doubtful or (2) interest or principal is past due for 90 days or more, except when the loan is well-secured (e.g., through credit enhancements) and in the process of collection. As such, FHLBanks do not place conventional mortgage loans over 90 days delinquent on non-accrual status when losses are not expected to be incurred. The FHLBanks do not place government-guaranteed or -insured mortgage loans on non-accrual status due to the U.S. government guarantee or insurance on these loans and the contractual obligation of the loan servicer to repurchase the loans when certain criteria are met. For those mortgage loans placed on non-accrual status, accrued but uncollected interest is reversed against interest income. The FHLBanks record cash payments received first as interest income and then as a reduction of principal as specified in the contractual agreement, unless the collection of the remaining principal amount due is considered doubtful. If the collection of the remaining principal amount due is considered doubtful, then cash payments received would be applied first solely to principal until the remaining principal amount due is expected to be collected and then as a recovery of any charge-off, if applicable, followed by recording interest income. A loan on non-accrual status may be restored to accrual status when (1) none of its contractual principal and interest is due and unpaid, and an FHLBank expects repayment of the remaining contractual interest and principal, or (2) it otherwise becomes well secured and in the process of collection.

Troubled Debt Restructuring. An FHLBank considers a troubled debt restructuring to have occurred when a concession is granted to a borrower for economic or legal reasons related to the borrower's financial difficulties and that concession would not have been considered otherwise. An FHLBank has granted a concession when it does not expect to collect all amounts due to the FHLBank under the original contract as a result of the restructuring. Loans that are discharged in Chapter 7 bankruptcy and have not been reaffirmed by the borrowers are also considered to be troubled debt restructurings, except in certain cases where supplemental mortgage insurance policies are held or where all contractual amounts due are still expected to be collected as a result of certain credit enhancements or government guarantees.

Impairment Methodology. A loan is considered impaired when, based on current information and events, it is probable that an FHLBank will be unable to collect all amounts due according to the contractual terms of the loan agreement.

Loans that are on non-accrual status and that are considered collateral-dependent are measured for impairment based on the fair value of the underlying property less estimated selling costs. Loans are considered collateral-dependent if repayment is expected to be provided solely by the sale of the underlying property; that is, there is no other available and reliable source of repayment. Collateral-dependent loans are impaired if the fair value of the underlying collateral is insufficient to recover the unpaid principal balance on the loan. Interest income on impaired loans is recognized in the same manner as non-accrual loans.

Charge-off Policy. A charge-off is recorded if it is estimated that the recorded investment in a loan will not be recovered. The FHLBanks evaluate whether to record a charge-off on a conventional mortgage loan upon the occurrence of a confirming event. Confirming events include, but are not limited to, the occurrence of foreclosure or notification of a claim against any of the credit enhancements. As a result of adopting FHFA Advisory Bulletin 2012-02, the FHLBanks charge off the portion of outstanding conventional mortgage loan balances in excess of fair value of the underlying property, less cost to sell and adjusted for any available credit enhancements, for loans that are 180 days or more delinquent and/or certain loans that the borrower has filed for bankruptcy.

Real Estate Owned

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 FHLBanks recognize 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 other non-interest income (loss) or other non-interest expense on the Combined Statement of Income. REO is recorded in other assets on the Combined Statement of Condition.

Derivatives

All derivatives are recognized on the Combined Statement of Condition at their fair values and are reported as either derivative assets or derivative liabilities, net of cash collateral, including initial and variation margin, and accrued interest received from or pledged to clearing agents and/or counterparties. The fair values of derivatives are netted by 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 Combined Statement of Cash Flows unless the derivative meets the criteria to be a financing derivative.

Derivative Designations. Each derivative is designated as one of the following:

- a qualifying hedge of the change in fair value of a recognized asset or liability or an unrecognized firm commitment (a fair value hedge);
- a qualifying hedge of a forecasted transaction or the variability of cash flows that are to be received or paid in connection with a recognized asset or liability (a cash flow hedge);
- a non-qualifying hedge (economic hedge) for asset-liability management purposes; or
- a non-qualifying hedge of another derivative (an intermediation hedge) that is offered as a product to members or used to offset other derivatives with non-member counterparties.

Accounting for Fair Value or Cash Flow Hedges. If hedging relationships meet certain criteria, including, but not limited to, formal documentation of the hedging relationship and an expectation to be highly effective, they qualify for fair value or cash flow hedge accounting and the offsetting changes in fair value of the hedged items attributable to the hedged risk may be recorded either in earnings (fair value hedges) or OCI (cash flow hedges). Two approaches to hedge accounting include:

- *Long-haul hedge accounting.* The application of long-haul hedge accounting requires an FHLBank to formally assess (both at the hedge's inception and at least quarterly) whether the derivatives that are used in hedging transactions have been effective in offsetting changes in the fair value or cash flows of hedged items attributable to the hedged risk or forecasted transactions and whether those derivatives may be expected to remain effective in future periods.

- *Short-cut hedge accounting*. Transactions that meet certain criteria qualify for the short-cut method of hedge accounting in which an assumption can be made that the change in fair value of a hedged item, due to changes in the benchmark rate, exactly offsets the change in fair value of the related derivative. Under the short-cut method, the entire change in fair value of the interest-rate swap is considered to be effective at achieving offsetting changes in fair values or cash flows of the hedged asset or liability.

Derivatives are typically executed at the same time as the hedged item, and each FHLBank designates the hedged item in a qualifying hedge relationship at the trade date. In many hedging relationships, an FHLBank may designate the hedging relationship upon its commitment to disburse an advance or trade a consolidated obligation in which settlement occurs within the shortest period of time possible for the type of instrument based on market settlement conventions. An FHLBank then records the changes in fair value of the derivative and the hedged item beginning on the trade date.

Changes in the fair value of a derivative that is designated and qualifies as a fair value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk, are recorded in non-interest income as net gains (losses) on derivatives and hedging activities.

Changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge, to the extent that the hedge is effective, are recorded in accumulated other comprehensive income (loss) (AOCI), a component of capital, until earnings are affected by the variability of the cash flows of the hedged transaction.

For both fair value and cash flow hedges, any hedge ineffectiveness (which represents the amount by which the change in the fair value of the derivative differs from the change in the fair value of the hedged item attributable to the hedged risk or the variability in the cash flows of the forecasted transaction) is recorded in non-interest income as net gains (losses) on derivatives and hedging activities.

Accounting for Economic Hedges or Intermediary Activities. An economic hedge is defined as a derivative hedging specific or non-specific underlying assets, liabilities, or firm commitments that does not qualify or was not designated for fair value or cash flow hedge accounting, but is an acceptable hedging strategy under an FHLBank's risk management program. These economic hedging strategies also comply with FHFA regulatory requirements prohibiting speculative hedge transactions. An economic hedge by definition introduces the potential for earnings variability caused by the changes in fair value of the derivatives that are recorded in an FHLBank's income but that are not offset by corresponding changes in the value of the economically hedged assets, liabilities, or firm commitments. As a result, an FHLBank recognizes only the net interest and the change in fair value of these derivatives in non-interest income as net gains (losses) on derivatives and hedging activities with no offsetting fair value adjustments for the assets, liabilities, or firm commitments.

The derivatives used in intermediary activities do not qualify for hedge accounting treatment and are separately marked-to-market through earnings. The net result of the accounting for these derivatives does not significantly affect the operating results of the FHLBanks. These amounts are recorded in non-interest income as net gains (losses) on derivatives and hedging activities.

Accrued Interest Receivables and Payables. The net settlements of interest receivables and payables related to derivatives designated in fair value or cash flow hedge relationships are recognized as adjustments to the income or expense of the designated hedged item. The net settlements of interest receivables and payables related to intermediated derivatives for members and other economic hedges are recognized in non-interest income as net gains (losses) on derivatives and hedging activities.

Discontinuance of Hedge Accounting. An FHLBank discontinues hedge accounting prospectively when:

- it determines that the derivative is no longer effective in offsetting changes in the fair value or cash flows of a hedged item attributable to the hedged risk (including hedged items such as firm commitments or forecasted transactions);
- the derivative and/or the hedged item expires or is sold, terminated, or exercised;
- it is no longer probable that the forecasted transaction will occur in the originally expected period;
- a hedged firm commitment no longer meets the definition of a firm commitment; or
- management determines that designating the derivative as a hedging instrument is no longer appropriate.

When hedge accounting is discontinued, an FHLBank either terminates the derivative or continues to carry the derivative on the statement of condition at its fair value, ceases to adjust the hedged asset or liability for changes in fair value, and amortizes the cumulative basis adjustment on the hedged item into earnings over the remaining life of the hedged item using a level-yield methodology.

When hedge accounting is discontinued because an FHLBank determines that the derivative no longer qualifies as an effective cash flow hedge of an existing hedged item, that FHLBank continues to carry the derivative on the statement of condition at its fair value and reclassifies the cumulative other comprehensive income adjustment into earnings when earnings are affected by the existing hedged item (i.e., the original forecasted transaction).

Under limited circumstances, when an FHLBank discontinues cash flow hedge accounting because it is no longer probable that the forecasted transaction will occur by the end of the originally specified time period, or within the following two months, but it is probable the transaction will still occur in the future, the gain or loss on the derivative remains in AOCI and is recognized as earnings when the forecasted transaction affects earnings. However, if it is probable that a forecasted transaction will not occur by the end of the originally specified time period or within the following two months, the gains and losses that were in AOCI are recognized immediately in earnings.

When hedge accounting is discontinued because the hedged item no longer meets the definition of a firm commitment, an FHLBank continues to carry the derivative on the statement of condition at its fair value, removing from the statement of condition any asset or liability that was recorded to recognize the firm commitment and recording it as a gain or loss in current period earnings.

Embedded Derivatives. The FHLBanks may issue debt, make advances, or purchase financial instruments in which a derivative instrument is "embedded." Upon execution of these transactions, an FHLBank 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 instrument (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. The embedded derivative is separated from the host contract, carried at fair value, and designated as a stand-alone derivative instrument pursuant to an economic hedge when an FHLBank determines that (1) the embedded derivative has 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. However, the entire contract is carried at fair value and no portion of the contract is designated as a hedging instrument 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 (such as an investment security classified as "trading" as well as hybrid financial instruments that are selected for the fair value option), or if an FHLBank cannot reliably identify and measure the embedded derivative for purposes of separating that derivative from its host contract.

Premises, Software, and Equipment

The FHLBanks record premises, software, and equipment at cost less accumulated depreciation and amortization and compute depreciation using the straight-line method over the estimated useful lives of assets, which range from one to 40 years. The FHLBanks amortize 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 FHLBanks may capitalize improvements and major renewals but expense ordinary maintenance and repairs when incurred. The FHLBanks include gains and losses on the disposal of premises, software, and equipment in non-interest income (loss).

The cost of computer software developed or obtained for internal use is capitalized and amortized over future periods. Unamortized computer software costs were $132 million at both December 31, 2015 and 2014. Amortization of computer software costs charged to expense was $34 million, $33 million, and $35 million for the years ended December 31, 2015, 2014 and 2013.

Accumulated Depreciation and Amortization. At December 31, 2015 and 2014, the accumulated depreciation and amortization related to premises, software, and equipment was $532 million and $570 million.

Depreciation and Amortization Expense. For the years ended December 31, 2015, 2014, and 2013, the depreciation and amortization expense for premises, software, and equipment was $52 million, $55 million, and $57 million.

Consolidated Obligations

Consolidated obligations are recorded at amortized cost unless an FHLBank has elected the fair value option, in which case the consolidated obligations are carried at fair value.

Discounts and Premiums. The FHLBanks amortize premiums and accrete discounts as well as hedging basis adjustments on consolidated obligations to interest expense using the interest method over the term to maturity or the estimated life of the corresponding consolidated obligation.

Concessions. The FHLBanks pay concessions to dealers in connection with the issuance of certain consolidated obligations. The Office of Finance prorates the amount of the concession to each FHLBank based upon the percentage of the debt issued that is assumed by that FHLBank. Concessions paid on consolidated obligations designated under the fair value option are expensed as incurred in non-interest expense. Concessions paid on consolidated obligations not designated under the fair value option are deferred and amortized, using the interest method, over the term to maturity or the estimated life of the corresponding consolidated obligation. Unamortized concessions are included in other assets and the amortization of those concessions is included in consolidated obligation interest expense.

Mandatorily Redeemable Capital Stock

An FHLBank generally reclassifies stock subject to redemption from capital stock to a liability after a member provides written notice of redemption, gives notice of intention to withdraw from membership, or attains non-member status by merger or acquisition, relocation, charter termination, or other involuntary termination from membership, because the member's shares will then meet the definition of a mandatorily redeemable financial instrument. 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 reflected as interest expense on the Combined Statement of Income. The repurchase or redemption of mandatorily redeemable capital stock is reflected as a financing cash outflow on the Combined Statement of Cash Flows.

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

Restricted Retained Earnings

In 2011, the FHLBanks entered into a Joint Capital Enhancement Agreement, as amended (Capital Agreement). Under the Capital Agreement, beginning in the third quarter of 2011, each FHLBank allocates 20% of its quarterly net income to a separate restricted retained earnings account at that FHLBank until the account balance equals at least one percent of that FHLBank's average balance of outstanding consolidated obligations for the previous quarter. The FHLBanks' restricted retained earnings are not available to pay dividends and are presented separately on the Combined Statement of Condition.

Gains on Litigation Settlement, Net

Litigation settlement gains, net of related legal expenses, are recorded in non-interest income as gains on litigation settlements, net on the Combined Statement of Income. A litigation settlement gain is considered realized and recorded when an affected FHLBank receives cash or assets that are readily convertible to known amounts of cash or claims to cash. In addition, a litigation settlement gain is considered realizable and recorded when an FHLBank enters into a signed agreement that is not subject to appeal, where the counterparty has the ability to pay, and the amount to be received can be reasonably estimated. Prior to being realized or realizable, the FHLBanks consider potential litigation settlement gains to be gain contingencies, and therefore they are not recorded on the Combined Statement of Income. The related legal expenses are contingent-based fees and are only incurred and recorded upon a litigation settlement gain.

FHFA Expenses

The portion of the FHFA's expenses and working capital fund paid by the FHLBanks are allocated among the FHLBanks based on the pro-rata share of the annual assessments (which are based on the ratio between each FHLBank's minimum required regulatory capital and the aggregate minimum required regulatory capital of every FHLBank).

Office of Finance Expenses

Each FHLBank's proportionate share of Office of Finance operating and capital expenditures is calculated using a formula that is based upon the following components: (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.

Assessments

Affordable Housing Program (AHP). The FHLBank Act requires each FHLBank to establish and fund an AHP, providing subsidies to members to assist in the purchase, construction, or rehabilitation of housing for very low-to-moderate-income households. Each FHLBank charges the required funding for AHP to earnings and establishes a liability. An FHLBank issues AHP advances at interest rates below the customary interest rate for non-subsidized advances. A discount on the AHP advance and charge against 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 that FHLBank's related cost of funds for comparable maturity funding. As an alternative, that FHLBank 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 a level-yield methodology over the life of the advance.

Note 2 - Recently Issued and Adopted Accounting Guidance

Contingent Put and Call Options in Debt Instruments

On March 14, 2016, the Financial Accounting Standards Board (FASB) issued amendments to clarify the requirements for assessing whether contingent call (put) options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. The guidance requires entities to apply only the four-step decision sequence when assessing whether the economic characteristics and risks of call (put) options are clearly and closely related to the economic characteristics and risks of their debt hosts. Consequently, when a call (put) option is contingently exercisable, an entity does not have to assess whether the event that triggers the ability to exercise a call (put) option is related to interest rates or credit risks. This guidance becomes effective for the FHLBanks for the interim and annual periods beginning on January 1, 2017, and early adoption is permitted. The guidance should be applied on a modified retrospective basis to existing debt instruments as of the beginning of the period for which the amendments are effective. The FHLBanks are in the process of evaluating this guidance, and its effect on the FHLBanks’ combined financial condition, combined results of operations, and combined cash flows has not yet been determined.

Effect of Derivative Contract Novations on Existing Hedge Accounting Relationships

On March 10, 2016, the FASB issued amendments to clarify that a change in the counterparty to a derivative instrument that has been designated as the hedging instrument under GAAP does not, in and of itself, require dedesignation of that hedging relationship provided that all other hedge accounting criteria continue to be met. This guidance becomes effective for the FHLBanks for the interim and annual periods beginning on January 1, 2017, and early adoption is permitted. The amendments provide entities with the option to apply the guidance using either a prospective approach or a modified retrospective approach, retrospectively applied to all derivative instruments that meet the specific conditions. The FHLBanks are in the process of evaluating this guidance, and its effect on the FHLBanks’ combined financial condition, combined results of operations, and combined cash flows has not yet been determined.

Leases

On February 25, 2016, the FASB issued guidance which requires recognition of lease assets and lease liabilities on the statement of condition and disclosure of key information about leasing arrangements. In particular, this guidance requires a lessee, of operating or finance leases, to recognize on the statement of condition a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term. However, for leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election not to recognize lease assets and lease liabilities. Under previous GAAP, a lessee was not required to recognize lease assets and lease liabilities arising from operating leases on the statement of condition. While this guidance does not fundamentally change lessor accounting, some changes have been made to align that guidance with the lessee guidance and other areas within GAAP.

The guidance becomes effective for the FHLBanks for the interim and annual periods beginning on January 1, 2019, and early application is permitted. The guidance requires lessors and lessees to recognize and measure leases at the beginning of the earliest period presented in the financial statements using a modified retrospective approach. The FHLBanks are in the process of evaluating this guidance, and its effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows has not yet been determined.

Recognition and Measurement of Financial Assets and Financial Liabilities

On January 5, 2016, the FASB issued amended guidance on certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This guidance includes, but is not limited to, the following:

- Requires equity investments (with certain exceptions) to be measured at fair value with changes in fair value recognized in net income.
- Requires an entity to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when the entity has elected to measure the liability at fair value in accordance with the fair value option for financial instruments.
- Requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset (that is, securities or loans and receivables) on the statement of condition or the accompanying notes to the financial statements.
- Eliminates the requirement for public entities to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the statement of condition.

The guidance becomes effective for the FHLBanks for the interim and annual periods beginning on January 1, 2018, and early adoption is only permitted for certain provisions. The amendments, in general, should be applied by means of a cumulative-effect adjustment on the statement of condition as of the beginning of the period of adoption. The FHLBanks are in the process of evaluating this guidance, and its effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows has not yet been determined.

Revenue from Contracts with Customers

On May 28, 2014, the FASB issued guidance on revenue from contracts with customers. This guidance outlines a comprehensive model for recognizing revenue arising from contracts with customers and supersedes most current revenue recognition guidance. In addition, this guidance amends the existing requirements for the recognition of a gain or loss on the transfer of non-financial assets that are not in a contract with a customer. This guidance applies to all contracts with customers except those that are within the scope of certain other standards, such as financial instruments, certain guarantees, insurance contracts, and lease contracts. The guidance provides entities with the option of using either of the following adoption methods: a full retrospective method, retrospectively to each prior reporting period presented; or a modified retrospective method, retrospectively with the cumulative effect of initially applying this guidance recognized at the date of initial application.

On August 12, 2015, the FASB issued an amendment to defer the effective date of the guidance issued in May 2014 by one year. The guidance is effective for the FHLBanks for interim and annual periods beginning on January 1, 2018. Early application is permitted only as of the interim and annual reporting periods beginning after December 15, 2016. The FHLBanks are in the process of evaluating this guidance, and its effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows has not yet been determined.

Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern

On August 27, 2014, the FASB issued guidance about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. This guidance requires management to perform interim and annual assessments of an entity's ability to continue as a going concern within one year after the date the financial statements are issued or within one year after the financial statements are available to be issued, when applicable. Substantial doubt exists if it is probable that the entity will be unable to meet its obligations for the assessed period. The guidance becomes effective for the FHLBanks for the annual period ending December 31, 2016 and for the annual and interim periods thereafter. Early application is permitted. This guidance is not expected to affect the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.

Customer's Accounting for Fees Paid in a Cloud Computing Arrangement

On April 15, 2015, the FASB issued amendments to clarify a customer's accounting for fees paid in a cloud computing arrangement. The amendments provide guidance to customers on determining whether a cloud computing arrangement includes a software license. If the arrangement includes a software license, then the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If the arrangement does not contain a software license, the customer should account for the arrangement as a service contract. The guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2016 and was adopted prospectively. However, this guidance did not have a material effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows.

Simplifying the Presentation of Debt Issuance Costs

On April 7, 2015, the FASB issued guidance to simplify the presentation of debt issuance costs. This guidance requires that debt issuance costs related to a recognized debt liability be presented on the statement of condition as a direct deduction from the carrying amount of that debt liability, consistent with the presentation of debt discounts. The guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2016 and was adopted retrospectively. The adoption of this guidance will result in a reclassification of unamortized debt issuance costs from other assets to consolidated obligations on future Combined Statements of Condition. However, this guidance will not have a material effect on the FHLBanks' combined financial condition.

Amendments to the Consolidation Analysis

On February 18, 2015, the FASB issued amended guidance intended to enhance consolidation guidance for legal entities such as limited partnerships, limited liability corporations, and securitization structures (collateralized debt obligations, collateralized loan obligations, and mortgage-backed security transactions). The new guidance primarily focuses on the following:

- Placing more emphasis on risk of loss when determining a controlling financial interest. A reporting organization may no longer have to consolidate a legal entity in certain circumstances based solely on its fee arrangement, when certain criteria are met.

- Reducing the frequency of the application of related-party guidance when determining a controlling financial interest in a VIE.

- Potentially changing consolidation conclusions for entities in several industries that typically make use of limited partnerships or VIEs.

This guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2016 and did not have a material effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows.

Note 3 - FHLBanks of Des Moines and Seattle Merger

Effective May 31, 2015, the FHLBank of Des Moines and the FHLBank of Seattle completed the previously announced merger pursuant to the definitive merger agreement, dated September 25, 2014. At closing, the FHLBank of Seattle merged with and into the FHLBank of Des Moines, with the FHLBank of Des Moines surviving the merger as the continuing FHLBank. The first date of operations for the combined FHLBank was June 1, 2015.

As part of the merger, on the effective date of the merger, each share of FHLBank of Seattle Class A stock outstanding was converted into one share of FHLBank of Des Moines Class A stock and each share of FHLBank of Seattle Class B stock outstanding was converted into one share of FHLBank of Des Moines Class B stock. Immediately following the merger, all shares of FHLBank of Des Moines Class A stock and excess shares of Class B stock were repurchased and FHLBank of Des Moines Class B stock was issued as needed to meet the FHLBank of Des Moines' activity and membership stock requirements in accordance with the combined FHLBank's capital plan. No shares of FHLBank of Seattle capital stock remain outstanding. The merger did not have an impact on the total capital stock held by FHLBank of Des Moines stockholders.

At the time of the merger, the corporate existence of the FHLBank of Seattle ceased, and each member of the FHLBank of Seattle automatically ceased to be a member of the FHLBank of Seattle and automatically became a member of the FHLBank of Des Moines.

Consideration Transferred and Assets Acquired and Liabilities Assumed

The merger purchase accounting entries were recorded in accordance with business combination accounting guidance under GAAP with the FHLBank of Des Moines considered the acquirer of the FHLBank of Seattle for accounting purposes. Consideration transferred included (1) equity interests of the FHLBank of Des Moines (i.e., par value of capital stock to be exchanged on a one-for-one basis for FHLBank of Seattle capital stock outstanding) and (2) member interests in the FHLBank of Des Moines (i.e., the post-merger interest of FHLBank of Seattle members in the FHLBank of Des Moines, including a proportionate interest in the liquidation value of the FHLBank of Des Moines). The amount of consideration transferred was compared to the acquisition date fair value of the net identifiable assets acquired. Based on the consideration transferred, no goodwill was recorded.

The FHLBank of Des Moines recognized net assets acquired by recording the par value of capital stock issued in the transaction as capital stock, with the remaining portion of net assets acquired recorded as additional capital from merger. As of the date of the merger, additional capital from merger primarily represented the amount of the FHLBank of Seattle's closing retained earnings balance, adjusted for fair value and other purchase accounting adjustments, and identified intangible assets. The FHLBank of Des Moines treats this additional capital from merger as a component of total capital for regulatory capital purposes, and subject to the FHLBank of Des Moines' board of directors' discretion and applicable regulatory requirements, plans to distribute dividends to the FHLBank of Des Moines' members from this account until the additional capital from merger balance is depleted.

Table 3.1 presents the fair value of the consideration transferred and the total identifiable net assets acquired relating to the merger.

Table 3.1 - Consideration Transferred and Assets Acquired and Liabilities Assumed
(dollars in millions)

	May 31, 2015
Fair value of consideration transferred	
Fair value of shares issued	$ 894
Member interests	246
Total fair value of consideration transferred	$ 1,140
Assets acquired	
Investments	$ 16,205
Advances	9,191
Mortgage loans held for portfolio	615
Other assets	2,453
Total assets acquired	28,464
Liabilities assumed	
Consolidated obligations	
Discount notes	12,449
Bonds	13,613
Total consolidated obligations	26,062
Mandatorily redeemable capital stock	725
Other liabilities	537
Total liabilities assumed	27,324
Net assets acquired	$ 1,140

Intangible Asset

On the merger date, the FHLBank of Des Moines recognized a customer relationship intangible asset of $3 million, recorded in other assets on the Combined Statement of Condition, and determined that amortization would be calculated on a straight-line basis using an estimated life of 20 years (with no residual value). The FHLBank of Des Moines will assess the customer relationship intangible asset for impairment on at least an annual basis.

Merger-Related Expenses

Expenses incurred in connection with the merger by the FHLBank of Des Moines and the FHLBank of Seattle were $52 million and $7 million for the years ended December 31, 2015 and 2014. Table 3.2 presents where the merger-related expenses are recorded on the Combined Statement of Income for the years ended December 31, 2015 and 2014.

Table 3.2 - Merger-Related Expenses
(dollars in millions)

	Year Ended December 31, 2015	Year Ended December 31, 2014
Non-interest expense		
Compensation and benefits	$ 33	$ 3
Other operating expenses	19	4
Total merger-related expenses included in non-interest expense	$ 52	$ 7

Gain Contingencies

As a result of the merger, the FHLBank of Des Moines is currently involved in a number of legal proceedings initiated by the FHLBank of Seattle against various entities relating to its purchases and subsequent impairment of certain private-label MBS. Although the FHLBank of Seattle sold all private-label MBS during the three months ended March 31, 2015, the FHLBank of Des Moines continues to be involved in these proceedings. After consultation with its legal counsel, other than the private-label MBS legal proceedings, the FHLBank of Des Moines does not believe any legal proceedings to which it is a party could have a material impact on its financial condition, results of operations, or cash flows.

Note 4 - Cash and Due from Banks

Compensating Balances

The FHLBanks maintain collected cash balances with commercial banks in return for certain services. These agreements contain no legal restrictions on the withdrawal of funds. The average collected cash balances were $859 million and $531 million for the years ended December 31, 2015 and 2014.

Pass-through Deposit Reserves

Certain FHLBanks act as pass-through correspondents for member institutions required to deposit reserves with the Federal Reserve Banks. The amount shown as cash and due from banks includes pass-through reserves deposited with the Federal Reserve Banks of $124 million and $116 million at December 31, 2015 and 2014.

Note 5 - Trading Securities

Table 5.1 - Trading Securities by Major Security Type
(dollars in millions)

Fair Value	December 31, 2015	December 31, 2014
Non-mortgage-backed securities		
U.S. Treasury obligations	$ 1,310	$ 526
Other U.S. obligations	237	256
GSE and Tennessee Valley Authority obligations	7,216	7,601
State or local housing agency obligations	1	1
Other	290	294
Total non-mortgage-backed securities	9,054	8,678
Mortgage-backed securities		
Other U.S. obligations single-family MBS	24	28
GSE single-family MBS	159	201
GSE multifamily MBS	1,523	693
Total mortgage-backed securities	1,706	922
Total	$ 10,760	$ 9,600

Table 5.2 - Net Gains (Losses) on Trading Securities
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Net unrealized gains (losses) on trading securities held at period-end	$ (130)	$ 10	$ (266)
Net unrealized and realized gains (losses) on trading securities sold/matured during the period	(1)	(27)	(18)
Net gains (losses) on trading securities	$ (131)	$ (17)	$ (284)

Note 6 - Available-for-Sale Securities

Table 6.1 - Available-for-Sale (AFS) Securities by Major Security Type
(dollars in millions)

	December 31, 2015				
	Amortized Cost(1)	OTTI Recognized in AOCI(2)	Gross Unrealized Gains(3)	Gross Unrealized Losses(3)	Fair Value
Non-mortgage-backed securities					
Certificates of deposit	$ 700	$ —	$ —	$ —	$ 700
Other U.S. obligations	4,833	—	27	(31)	4,829
GSE and Tennessee Valley Authority obligations	14,936	—	48	(121)	14,863
State or local housing agency obligations	1,199	—	3	(3)	1,199
Federal Family Education Loan Program ABS	5,089	—	233	(23)	5,299
Other	1,151	—	5	(32)	1,124
Total non-mortgage-backed securities	27,908	—	316	(210)	28,014
Mortgage-backed securities					
Other U.S. obligations single-family MBS	4,547	—	57	(17)	4,587
Other U.S. obligations multifamily MBS	747	—	—	(3)	744
GSE single-family MBS	9,584	—	45	(43)	9,586
GSE multifamily MBS	24,476	—	419	(202)	24,693
Private-label residential MBS	8,039	(185)	442	(14)	8,282
Home equity loan ABS	8	—	2	—	10
Total mortgage-backed securities	47,401	(185)	965	(279)	47,902
Total	$ 75,309	$ (185)	$ 1,281	$ (489)	$ 75,916

	December 31, 2014				
	Amortized Cost(1)	OTTI Recognized in AOCI(2)	Gross Unrealized Gains(3)	Gross Unrealized Losses(3)	Fair Value
Non-mortgage-backed securities					
Certificates of deposit	$ 1,350	$ —	$ —	$ —	$ 1,350
Other U.S. obligations	4,967	—	39	(11)	4,995
GSE and Tennessee Valley Authority obligations	15,051	—	102	(60)	15,093
State or local housing agency obligations	139	—	1	(1)	139
Federal Family Education Loan Program ABS	5,824	—	408	(11)	6,221
Other	1,078	—	10	(25)	1,063
Total non-mortgage-backed securities	28,409	—	560	(108)	28,861
Mortgage-backed securities					
Other U.S. obligations single-family MBS	4,806	—	88	(5)	4,889
Other U.S. obligations multifamily MBS	875	—	—	(4)	871
GSE single-family MBS	9,660	—	70	(16)	9,714
GSE multifamily MBS	19,011	—	637	(23)	19,625
Private-label residential MBS	10,686	(247)	600	(3)	11,036
Home equity loan ABS	9	—	3	—	12
Total mortgage-backed securities	45,047	(247)	1,398	(51)	46,147
Total	$ 73,456	$ (247)	$ 1,958	$ (159)	$ 75,008

(1) Amortized cost of AFS securities includes adjustments made to the cost basis of an investment for accretion, amortization, previous OTTI recognized in earnings, and/or fair value hedge accounting adjustments.

(2) OTTI recognized in AOCI does not include $426 million and $596 million in subsequent unrealized gains (losses) in fair value of previously other-than-temporarily impaired AFS securities at December 31, 2015 and 2014, which is included in net non-credit portion of OTTI losses on AFS securities in *Note 18 - Accumulated Other Comprehensive Income (Loss)*.

(3) Gross unrealized gains and gross unrealized losses on AFS securities include $426 million and $596 million in subsequent unrealized gains (losses) in fair value of previously other-than-temporarily impaired AFS securities at December 31, 2015 and 2014, which is not included in net unrealized gains (losses) on AFS securities in *Note 18 - Accumulated Other Comprehensive Income (Loss)*.

Table 6.2 presents the AFS securities with unrealized losses by major security type and length of time that individual securities have been in a continuous unrealized loss position.

Table 6.2 - AFS Securities in a Continuous Unrealized Loss Position
(dollars in millions)

	December 31, 2015					
	Less than 12 Months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses(1)
Non-mortgage-backed securities						
Other U.S. Obligations	$ 3,875	$ (31)	$ —	$ —	$ 3,875	$ (31)
GSE and Tennessee Valley Authority obligations	5,509	(42)	721	(79)	6,230	(121)
State or local housing agency obligations	601	(3)	10	—	611	(3)
Federal Family Education Loan Program ABS	64	(1)	787	(22)	851	(23)
Other	376	(2)	487	(30)	863	(32)
Total non-mortgage-backed securities	10,425	(79)	2,005	(131)	12,430	(210)
Mortgage-backed securities						
Other U.S. obligations single-family MBS	2,431	(14)	126	(3)	2,557	(17)
Other U.S. obligations multifamily MBS	537	(2)	109	(1)	646	(3)
GSE single-family MBS	3,855	(30)	520	(13)	4,375	(43)
GSE multifamily MBS	12,748	(147)	2,782	(55)	15,530	(202)
Private-label residential MBS	340	(5)	2,250	(194)	2,590	(199)
Total mortgage-backed securities	19,911	(198)	5,787	(266)	25,698	(464)
Total	$ 30,336	$ (277)	$ 7,792	$ (397)	$ 38,128	$ (674)

	December 31, 2014					
	Less than 12 Months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses(1)
Non-mortgage-backed securities						
Other U.S. Obligations	$ 2,176	$ (10)	$ 740	$ (1)	$ 2,916	$ (11)
GSE and Tennessee Valley Authority obligations	2,883	(8)	841	(52)	3,724	(60)
State or local housing agency obligations	5	—	18	(1)	23	(1)
Federal Family Education Loan Program ABS	14	—	877	(11)	891	(11)
Other	163	—	448	(25)	611	(25)
Total non-mortgage-backed securities	5,241	(18)	2,924	(90)	8,165	(108)
Mortgage-backed securities						
Other U.S. obligations single-family MBS	1,698	(4)	155	(1)	1,853	(5)
Other U.S. obligations multifamily MBS	610	(4)	24	—	634	(4)
GSE single-family MBS	472	(1)	1,252	(15)	1,724	(16)
GSE multifamily MBS	2,210	(13)	2,256	(10)	4,466	(23)
Private-label residential MBS	777	(19)	3,004	(231)	3,781	(250)
Total mortgage-backed securities	5,767	(41)	6,691	(257)	12,458	(298)
Total	$ 11,008	$ (59)	$ 9,615	$ (347)	$ 20,623	$ (406)

(1) Total unrealized losses in Table 6.2 will not agree to total gross unrealized losses in Table 6.1. Total unrealized losses in Table 6.2 includes non-credit-related OTTI recognized in AOCI.

Table 6.3 - AFS Securities by Contractual Maturity
(dollars in millions)

	December 31, 2015		December 31, 2014	
Year of Maturity	**Amortized Cost**	**Fair Value**	**Amortized Cost**	**Fair Value**
Non-mortgage-backed securities				
Due in one year or less	$ 2,145	$ 2,147	$ 1,992	$ 1,995
Due after one year through five years	8,529	8,545	10,906	10,957
Due after five years through ten years	8,580	8,563	5,771	5,811
Due after ten years	3,565	3,460	3,916	3,877
Federal Family Education Loan Program ABS(1)	5,089	5,299	5,824	6,221
Total non-mortgage-backed securities	27,908	28,014	28,409	28,861
Mortgage-backed securities(1)	47,401	47,902	45,047	46,147
Total	$ 75,309	$ 75,916	$ 73,456	$ 75,008

(1) Federal Family Education Loan Program ABS and MBS are not presented by contractual maturity because their expected maturities will likely differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

Table 6.4 - Interest-Rate Payment Terms of AFS Securities
(dollars in millions)

	December 31,	
	2015	**2014**
Amortized cost of non-mortgage-backed securities		
Fixed-rate	$ 19,462	$ 19,559
Variable-rate	8,446	8,850
Total amortized cost of non-mortgage-backed securities	27,908	28,409
Amortized cost of mortgage-backed securities		
Fixed-rate	26,830	25,688
Variable-rate	20,571	19,359
Total amortized cost of mortgage-backed securities	47,401	45,047
Total	$ 75,309	$ 73,456

Table 6.5 - Proceeds from Sale and Gross Gains and Losses on AFS Securities
(dollars in millions)

	Year Ended December 31,		
	2015	**2014**	**2013**
Proceeds from sale of AFS securities	$ 2,576	$ 98	$ 442
Gross gains on sale of AFS securities	$ 74	$ 1	$ 21
Gross losses on sale of AFS securities	(14)	—	—
Net realized gains/(losses) from sale of AFS securities	$ 60 [a]	$ 1	$ 21 [b]

(a) Includes $52 million of net realized gains relating to sales of previously other-than-temporarily impaired securities.
(b) Includes $18 million of net realized gains relating to sales of previously other-than-temporarily impaired securities.

See *Note 8 - Other-than-Temporary Impairment Analysis* for analysis related to OTTI and information on the transfers of securities between the AFS portfolio and the held-to-maturity (HTM) portfolio.

Note 7 - Held-to-Maturity Securities

Table 7.1 - HTM Securities by Major Security Type
(dollars in millions)

	December 31, 2015					
	Amortized Cost(1)	OTTI Recognized in AOCI(2)	Carrying Value(2)	Gross Unrecognized Holding Gains(3)	Gross Unrecognized Holding Losses(3)	Fair Value
Non-mortgage-backed securities						
Other U.S. obligations	$ 1,957	$ —	$ 1,957	$ 64	$ (1)	$ 2,020
GSE and Tennessee Valley Authority obligations	6,226	—	6,226	57	(15)	6,268
State or local housing agency obligations	2,710	—	2,710	10	(116)	2,604
Total non-mortgage-backed securities	10,893	—	10,893	131	(132)	10,892
Mortgage-backed securities						
Other U.S. obligations single-family MBS	10,223	—	10,223	46	(41)	10,228
Other U.S. obligations multifamily MBS	23	—	23	—	—	23
GSE single-family MBS	48,258	—	48,258	546	(238)	48,566
GSE multifamily MBS	19,951	—	19,951	289	(58)	20,182
Private-label residential MBS	5,822	(490)	5,332	636	(83)	5,885
Manufactured housing loan ABS	86	—	86	2	(1)	87
Home equity loan ABS	236	(37)	199	65	(4)	260
Total mortgage-backed securities	84,599	(527)	84,072	1,584	(425)	85,231
Total	$ 95,492	$ (527)	$ 94,965	$ 1,715	$ (557)	$ 96,123

	December 31, 2014					
	Amortized Cost(1)	OTTI Recognized in AOCI(2)	Carrying Value(2)	Gross Unrecognized Holding Gains(3)	Gross Unrecognized Holding Losses(3)	Fair Value
Non-mortgage-backed securities						
Certificates of deposit	$ 356	$ —	$ 356	$ —	$ —	$ 356
Other U.S. obligations	2,271	—	2,271	75	(1)	2,345
GSE and Tennessee Valley Authority obligations	7,280	—	7,280	73	(13)	7,340
State or local housing agency obligations	3,830	—	3,830	13	(137)	3,706
Total non-mortgage-backed securities	13,737	—	13,737	161	(151)	13,747
Mortgage-backed securities						
Other U.S. obligations single-family MBS	9,401	—	9,401	99	(8)	9,492
Other U.S. obligations multifamily MBS	117	—	117	—	—	117
GSE single-family MBS	58,499	—	58,499	902	(173)	59,228
GSE multifamily MBS	16,755	—	16,755	407	(19)	17,143
Private-label residential MBS	7,614	(610)	7,004	809	(108)	7,705
Manufactured housing loan ABS	105	—	105	2	(1)	106
Home equity loan ABS	275	(45)	230	75	(4)	301
Total mortgage-backed securities	92,766	(655)	92,111	2,294	(313)	94,092
Total	$ 106,503	$ (655)	$ 105,848	$ 2,455	$ (464)	$ 107,839

(1) Amortized cost of HTM securities includes adjustments made to the cost basis of an investment for accretion, amortization, and/or previous OTTI recognized in earnings.
(2) Carrying value of HTM securities represents amortized cost after adjustment for the non-credit-related OTTI recognized in AOCI.
(3) Gross unrecognized holding gains (losses) represent the difference between fair value and carrying value.

Table 7.2 presents the HTM securities with unrealized losses, which are aggregated by major security type and length of time that individual securities have been in a continuous unrealized loss position.

Table 7.2 - HTM Securities in a Continuous Unrealized Loss Position
(dollars in millions)

	December 31, 2015					
	Less than 12 Months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses(1)
Non-mortgage-backed securities						
Other U.S. obligations	$ 618	$ —	$ 16	$ (1)	$ 634	$ (1)
GSE and Tennessee Valley Authority obligations	4,631	(10)	745	(5)	5,376	(15)
State or local housing agency obligations	115	—	861	(116)	976	(116)
Total non-mortgage-backed securities	5,364	(10)	1,622	(122)	6,986	(132)
Mortgage-backed securities						
Other U.S. obligations single-family MBS	4,716	(35)	605	(6)	5,321	(41)
GSE single-family MBS	14,691	(141)	3,234	(97)	17,925	(238)
GSE multifamily MBS	9,212	(42)	2,208	(16)	11,420	(58)
Private-label residential MBS	820	(6)	3,854	(351)	4,674	(357)
Manufactured housing loan ABS	—	—	9	(1)	9	(1)
Home equity loan ABS	—	—	61	(4)	61	(4)
Total mortgage-backed securities	29,439	(224)	9,971	(475)	39,410	(699)
Total	$ 34,803	$ (234)	$ 11,593	$ (597)	$ 46,396	$ (831)

	December 31, 2014					
	Less than 12 Months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses(1)
Non-mortgage-backed securities						
Other U.S. obligations	$ 14	$ (1)	$ 5	$ —	$ 19	$ (1)
GSE and Tennessee Valley Authority obligations	899	(1)	1,233	(12)	2,132	(13)
State or local housing agency obligations	219	—	1,110	(137)	1,329	(137)
Total non-mortgage-backed securities	1,132	(2)	2,348	(149)	3,480	(151)
Mortgage-backed securities						
Other U.S. obligations single-family MBS	659	(1)	994	(7)	1,653	(8)
GSE single-family MBS	2,108	(4)	10,648	(169)	12,756	(173)
GSE multifamily MBS	2,224	(2)	1,439	(17)	3,663	(19)
Private-label residential MBS	845	(6)	4,582	(440)	5,427	(446)
Manufactured housing loan ABS	—	—	10	(1)	10	(1)
Home equity loan ABS	—	—	69	(4)	69	(4)
Total mortgage-backed securities	5,836	(13)	17,742	(638)	23,578	(651)
Total	$ 6,968	$ (15)	$ 20,090	$ (787)	$ 27,058	$ (802)

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(1) Total unrealized losses in Table 7.2 will not agree to total gross unrecognized holding losses in Table 7.1. Total unrealized losses in Table 7.2 includes non-credit-related OTTI recognized in AOCI and gross unrecognized holding gains on previously other-than-temporarily impaired securities.

Table 7.3 - HTM Securities by Contractual Maturity
(dollars in millions)

	December 31, 2015			December 31, 2014		
Year of Maturity	Amortized Cost	Carrying Value(1)	Fair Value	Amortized Cost	Carrying Value(1)	Fair Value
Non-mortgage-backed securities						
Due in one year or less	$ 1,499	$ 1,499	$ 1,499	$ 2,574	$ 2,574	$ 2,575
Due after one year through five years	5,509	5,509	5,501	6,031	6,031	6,021
Due after five years through ten years	827	827	858	978	978	986
Due after ten years	3,058	3,058	3,034	4,154	4,154	4,165
Total non-mortgage-backed securities	10,893	10,893	10,892	13,737	13,737	13,747
Mortgage-backed securities(2)	84,599	84,072	85,231	92,766	92,111	94,092
Total	$ 95,492	$ 94,965	$ 96,123	$ 106,503	$ 105,848	$ 107,839

(1) Carrying value of HTM securities represents amortized cost after adjustment for non-credit-related OTTI recognized in AOCI.
(2) MBS are not presented by contractual maturity because their expected maturities will likely differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

Table 7.4 - Interest Rate Payment Terms of HTM Securities
(dollars in millions)

	December 31,	
	2015	2014
Amortized cost of non-mortgage-backed securities		
Fixed-rate	$ 4,425	$ 5,672
Variable-rate	6,468	8,065
Total amortized cost of non-mortgage-backed securities	10,893	13,737
Amortized cost of mortgage-backed securities		
Fixed-rate	37,952	41,708
Variable-rate	46,647	51,058
Total amortized cost of mortgage-backed securities	84,599	92,766
Total	$ 95,492	$ 106,503

Realized Gains and Losses

Certain FHLBanks sold securities out of their respective HTM portfolio that were either within three months of maturity or had less than 15% of the acquired principal outstanding at the time of the sale. These sales are considered maturities for purposes of security classification.

Table 7.5 - Proceeds from Sale and Gains and Losses on HTM Securities
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Proceeds from sale of HTM securities	$ 825	$ 90	$ —
Carrying value of HTM securities sold	810	81	—
Net realized gains (losses) from sale of HTM securities	$ 15	$ 9	$ —

Note 8 - Other-than-Temporary Impairment Analysis

Each FHLBank evaluates its individual AFS and HTM investment securities holdings in an unrealized loss position for OTTI on a quarterly basis.

To ensure consistency in determination of OTTI for private-label MBS among all FHLBanks, the FHLBanks use a system-wide governance committee and a formal process to ensure consistency in key OTTI modeling assumptions used for purposes of their cash flow analyses for the majority of these securities. Most of the FHLBanks select all of their private-label MBS in an unrealized loss position to be evaluated using the FHLBanks' common framework and approved assumptions for purposes of OTTI cash flow analysis. For certain private-label MBS where underlying collateral data is not available, alternative procedures as determined by each FHLBank are used to assess these securities for OTTI.

Each FHLBank's evaluation includes estimating the projected cash flows that the FHLBank is likely to collect based on an assessment of available information, including the structure of the applicable security and certain assumptions such as:

- the remaining payment terms for the security;
- prepayment speeds based on underlying loan-level borrower and loan characteristics;
- default rates based on underlying loan-level borrower and loan characteristics;
- loss severity on the collateral supporting each FHLBank's security based on underlying loan-level borrower and loan characteristics;
- expected housing price changes; and
- interest-rate assumptions.

Certain Private-label MBS

Each FHLBank performed a cash flow analysis using two third-party models to assess whether the entire amortized cost basis of its private-label MBS securities will be recovered. The projected cash flows are based on a number of assumptions and expectations, and the results of these models can vary significantly with changes in assumptions and expectations. The scenario of cash flows determined based on the model approach reflects a best estimate scenario and includes a base case housing price forecast and a base case housing price recovery path.

The first third-party model considers borrower characteristics and the particular attributes of the loans underlying an FHLBank'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 (CBSAs), which are based upon an assessment of the individual housing markets. CBSA refers collectively to metropolitan and micropolitan statistical areas as defined by the United States Office of Management and Budget; as currently defined, a CBSA must contain at least one urban area with a population of 10,000 or more people. The FHLBanks' system-wide governance committee developed a short-term housing price forecast with projected changes ranging from a decrease of 3.0% to an increase of 8.0% over the twelve month period beginning October 1, 2015. For the vast majority of markets, the projected short-term housing price changes range from an increase of 2.0% to an increase of 5.0%. Thereafter, a unique path is projected for each geographic area based on an internally developed framework derived from historical data.

The month-by-month projections of future loan performance derived from the first model, which reflect projected prepayments, defaults, and loss severities, are then input into a second model that 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. In a securitization in which the credit enhancement for the senior securities is derived from the presence of subordinate securities, losses are generally allocated first to the subordinate securities until their principal balance is reduced to zero.

OTTI - Credit Loss. In performing a detailed cash flow analysis, each FHLBank identifies the best estimate of the cash flows expected to be collected. If this estimate results in a present value of expected cash flows (discounted at the security's effective yield) that is less than the amortized cost basis of a security (that is, a credit loss exists), an OTTI loss is considered to have occurred. For variable-rate and hybrid private-label MBS, the affected FHLBank uses the effective interest rate derived from a variable-rate index (e.g., one-month LIBOR) plus the contractual spread, plus or minus a fixed spread adjustment when there is an existing discount or premium on the security. As the implied forward curve of the index changes over time, the effective interest rates derived from that index will also change over time.

OTTI - Significant Inputs. Table 8.1 presents the significant inputs used to measure the amount of credit loss recognized in earnings during the year ended December 31, 2015, for those securities for which an OTTI was determined to have occurred, as well as related current credit enhancement for each affected FHLBank. Credit enhancement is defined as the percentage of credit subordination, excess spread, and over-collateralization, if any, in a security structure that will generally absorb losses before an FHLBank will experience a credit loss on the security. The calculated averages represent the dollar-weighted averages for OTTI private-label residential MBS in the category shown.

Table 8.1 - Significant Inputs for OTTI

	Significant Inputs for OTTI Private-label Residential MBS(1)(2)			Current Credit Enhancement Weighted-Average(3)
	Prepayment Rates Weighted-Average(3)	Default Rates Weighted-Average(3)	Loss Severities Weighted-Average(3)	
Prime	17.6%	6.4%	33.6%	10.5%
Alt-A	11.4%	22.6%	36.7%	8.6%
Total OTTI private-label residential MBS	11.5%	22.3%	36.7%	8.6%

(1) Represents significant inputs associated with the most recent OTTI in 2015.
(2) The classification (prime and Alt-A) in this table is based on the model used to run the estimated cash flows for the CUSIP, which may not necessarily be the same as the classification at the time of origination.
(3) Weighted-average percentage is based on unpaid principal balance.

OTTI - HTM Securities Transferred to AFS Securities. Certain changes in circumstances may cause an FHLBank to change its intent to hold a certain security to maturity without calling into question its intent to hold other debt securities to maturity in the future. Thus, the sale or transfer of an HTM security due to certain changes in circumstances, such as evidence of significant deterioration in the issuer's creditworthiness, is not considered to be inconsistent with its original classification. Additionally, other events that are isolated, nonrecurring, or unusual for an FHLBank that could not have been reasonably anticipated may cause an FHLBank to sell or transfer an HTM security without necessarily calling into question its intent to hold other debt securities to maturity.

During the years ended December 31, 2015 and 2013, certain FHLBanks elected to transfer private-label MBS with fair values of $25 million and $83 million that experienced credit-related OTTI from their respective HTM portfolio to their respective AFS portfolio. During the year ended December 31, 2014, there were no transfers of securities from HTM to AFS. Each of these FHLBanks recognized an OTTI credit loss on these HTM private-label residential MBS, which that FHLBank believes is evidence of a significant deterioration in the issuer's creditworthiness. This deterioration is the basis for the transfers to the AFS portfolio. These transfers allow management the option to decide to sell these securities prior to maturity in response to changes in interest rates, changes in prepayment risk, or other factors. For the AFS securities in an unrealized loss position, each of the affected FHLBanks asserted as of December 31, 2015, that it has no intent to sell and believes it is not more likely than not that it will be required to sell any security before its anticipated recovery of the remaining amortized cost basis.

In connection with the merger with the FHLBank of Des Moines, the FHLBank of Seattle changed its intent to hold HTM securities to maturity and consequently transferred its entire HTM portfolio, with a fair value of $9.1 billion, to its AFS portfolio in March 2015. Based on its intent to sell its private-label MBS, the FHLBank of Seattle recorded a $52 million OTTI charge in March 2015. The FHLBank of Seattle subsequently sold all of its private-label MBS and realized a $52 million gain on sale in March 2015.

Table 8.2 presents the December 31, 2015 balance of the total HTM and AFS MBS with OTTI charges during the life of the security, which represents securities other-than-temporarily impaired prior to and at December 31, 2015, based on each individual FHLBank's impairment analyses of its investment portfolio.

Table 8.2 - Total MBS Other-than-Temporarily Impaired during the Life of the Security
(dollars in millions)

	December 31, 2015(1)						
	Held-to-Maturity Securities				Available-for-Sale Securities		
	Unpaid Principal Balance	Amortized Cost	Carrying Value	Fair Value	Unpaid Principal Balance	Amortized Cost	Fair Value
Private-label residential MBS(2)							
Prime	$ 1,016	$ 829	$ 642	$ 868	$ 3,007	$ 2,482	$ 2,671
Alt-A	1,469	1,121	875	1,146	6,648	5,552	5,606
Subprime	550	335	278	409	2	1	1
Total private-label residential MBS	3,035	2,285	1,795	2,423	9,657	8,035	8,278
Home equity loan ABS(2)							
Alt-A	—	—	—	—	10	8	9
Subprime	148	117	80	141	—	—	—
Total home equity loan ABS	148	117	80	141	10	8	9
Total	$ 3,183	$ 2,402	$ 1,875	$ 2,564	$ 9,667	$ 8,043	$ 8,287

(1) Table 8.2 does not include all HTM and AFS securities that are in an unrealized loss position as of December 31, 2015. This table includes only HTM and AFS MBS with OTTI charges during the life of the security.
(2) The FHLBanks classify securities as prime, Alt-A, and subprime based on the originator's classification at the time of origination or based on classification by a nationally recognized statistical rating organization upon issuance of the securities.

Table 8.3 presents a rollforward of the amounts related to credit losses recognized in earnings. The rollforward relates to the amount of credit losses on investment securities held by the FHLBanks for which a portion of OTTI losses was recognized in accumulated other comprehensive income (loss).

Table 8.3 - Rollforward of the Amounts Related to Credit Losses Recognized into Earnings
(dollars in millions)

	Year ended December 31,		
	2015	2014	2013
Balance, at beginning of period	$ 3,836	$ 4,075	$ 4,260
Additions			
Credit losses for which OTTI was not previously recognized(1)	2	—	—
Additional OTTI credit losses for securities upon which an OTTI charge was previously recognized (2)(3)	24	15	14
Reductions			
Securities sold or matured during the period(4)	(2)	—	(60)
Credit losses on securities that an FHLBank intends to sell before recovery of its amortized cost basis	(367)	(1)	(8)
Increases in cash flows expected to be collected (accreted as interest income over the remaining lives of the applicable securities)	(253)	(253)	(131)
Balance, at end of period	$ 3,240	$ 3,836	$ 4,075

(1) Does not include $1 million of OTTI charges related to an AFS non-mortgage -backed security for the year ended December 31, 2013, that the FHLBank of Des Moines intended to sell.
(2) For the years ended December 31, 2015, 2014, and 2013, additional OTTI credit losses for securities upon which an OTTI charge was previously recognized relates to all securities that were also previously impaired prior to January 1, 2015, 2014, and 2013.
(3) Does not include $52 million of OTTI charges related to AFS private-label mortgage-backed securities for the year ended December 31, 2015, that the FHLBank of Seattle intended to sell, and subsequently sold.
(4) Represents reductions related to securities sold or having reached final maturity during the period, and therefore are no longer held by the FHLBanks at the end of the period.

All other AFS and HTM Investment Securities

At December 31, 2015, the FHLBanks held certain other AFS and HTM securities in unrealized loss positions. These unrealized losses are due primarily to interest rate volatility and/or illiquidity. These losses are considered temporary as each FHLBank expects to recover the entire amortized cost basis on its remaining AFS and HTM 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, each FHLBank does not consider these other AFS and HTM investment securities to be other-than-temporarily impaired at December 31, 2015.

Note 9 - Advances

The FHLBanks offer a wide range of fixed- and variable-rate advance products with different maturities, interest rates, payment characteristics, and optionality. Fixed-rate advances generally have maturities ranging from one day to 30 years. Variable-rate advances generally have maturities ranging from less than 30 days to 20 years, where the interest rates reset periodically at a fixed spread to LIBOR or other specified indices, or consolidated discount note rates.

Table 9.1 - Advances Redemption Terms
(dollars in millions)

	December 31, 2015		December 31, 2014	
Contractual Maturity	**Amount**	**Weighted-Average Interest Rate**	**Amount**	**Weighted-Average Interest Rate**
Overdrawn demand and overnight deposit accounts	$ 26	3.70%	$ 99	3.32%
Due in 1 year or less	251,458	0.70%	231,241	0.50%
Due after 1 year through 2 years	103,118	1.16%	78,381	1.32%
Due after 2 years through 3 years	95,768	1.23%	73,374	1.58%
Due after 3 years through 4 years	61,161	0.99%	76,177	1.10%
Due after 4 years through 5 years	46,331	1.13%	57,344	0.85%
Thereafter	71,890	1.54%	47,328	2.39%
Index-amortizing advances(1)	1,481	3.15%	1,728	3.45%
Total par value	631,233	1.02%	565,672	1.04%
Commitment fees	(2)		(5)	
Discounts on AHP advances	(32)		(37)	
Premiums	201		103	
Discounts	(63)		(84)	
Hedging adjustments	2,644		4,980	
Fair value option valuation adjustments	41		97	
Total	$ 634,022		$ 570,726	

(1) Index-amortizing advances require repayment according to predetermined amortization schedules linked to the level of various indices. Generally, as market interest rates rise (fall), the maturity of an index-amortizing advance extends (contracts).

The FHLBanks offer advances to members and housing associates that provide the right, based upon predetermined option exercise dates, to call the advance prior to maturity without incurring prepayment or termination fees (callable advances). The FHLBanks also offer certain floating-rate and/or amortizing advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees (prepayable advances). At December 31, 2015 and 2014, the FHLBanks had callable and prepayable advances outstanding totaling $171.7 billion and $97.7 billion. Other advances may only be prepaid by paying a fee to the FHLBank (prepayment fee) that makes the FHLBank financially indifferent to the prepayment of the advance. If advances are prepaid, replacement funding may be available.

Some advances contain embedded options allowing an FHLBank to offer putable and convertible advances. A member either can sell an embedded option to an FHLBank or can purchase an embedded option from an FHLBank.

With a putable advance to a member, an FHLBank effectively purchases a put option from the member that allows that FHLBank to put or extinguish the fixed-rate advance to the member on predetermined exercise dates, and offer, subject to certain conditions, replacement funding at prevailing market rates. Generally, these put options are exercised when interest rates increase. At December 31, 2015 and 2014, the FHLBanks had putable advances outstanding totaling $12.5 billion and $24.3 billion.

Convertible advances allow an FHLBank to convert an advance from one interest-payment term structure to another. When issuing convertible advances, an FHLBank may purchase put options from a member that allow that FHLBank to convert the fixed-rate advance to a variable-rate advance at the current market rate or another structure after an agreed-upon lockout period. A convertible advance carries a lower interest rate than a comparable-maturity fixed-rate advance without the conversion feature. Variable- to fixed-rate convertible advances have a defined lockout period during which the interest rates adjust based on a spread to LIBOR. At the end of the lockout period, these advances may convert to fixed-rate advances. The fixed rates on the converted advances are determined at origination. At December 31, 2015 and 2014, the FHLBanks had convertible advances outstanding totaling $5.3 billion and $6.5 billion.

Table 9.2 - Advances by Year of Contractual Maturity or Next Call Date and Next Put or Convert Date
(dollars in millions)

	Year of Contractual Maturity or Next Call Date(1)		Year of Contractual Maturity or Next Put or Convert Date	
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Overdrawn demand and overnight deposit accounts	$ 26	$ 99	$ 26	$ 99
Due in 1 year or less	380,262	311,979	264,554	254,411
Due after 1 year through 2 years	86,223	73,868	96,655	76,089
Due after 2 years through 3 years	74,732	67,750	91,702	66,331
Due after 3 years through 4 years	35,660	47,833	61,083	70,773
Due after 4 years through 5 years	25,288	28,401	45,348	55,410
Thereafter	27,561	34,014	70,384	40,831
Index-amortizing advances	1,481	1,728	1,481	1,728
Total par value	$ 631,233	$ 565,672	$ 631,233	$ 565,672

(1) Also includes certain floating-rate and/or amortizing advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees.

Table 9.3 - Advances by Current Interest Rate Terms
(dollars in millions)

Contractual Maturity	December 31, 2015	December 31, 2014
Fixed-rate		
Due in one year or less	$ 171,880	$ 165,714
Due after one year	151,096	154,018
Total fixed-rate	322,976	319,732
Variable-rate		
Due in one year or less	79,618	65,638
Due after one year	228,639	180,302
Total variable-rate	308,257	245,940
Total par value	$ 631,233	$ 565,672

Credit Risk Exposure and Security Terms

The FHLBanks' potential credit risk from advances is concentrated in commercial banks. The FHLBanks' advances outstanding that were greater than or equal to $1.0 billion per borrower were $442.6 billion and $388.2 billion at December 31, 2015 and 2014. These advances were made to 96 and 79 borrowers (members and non-members) at December 31, 2015 and 2014, which represented 70.1% and 68.6% of total advances outstanding at December 31, 2015 and 2014. (See *Note 11 - Allowance for Credit Losses* for information related to the FHLBanks' credit risk on advances and allowance methodology for credit losses.)

Note 10 - Mortgage Loans

Mortgage Loans Held for Portfolio

Mortgage loans held for portfolio consist of loans obtained through the MPP and MPF Program and are either conventional or government-guaranteed or -insured mortgage loans. The MPP and MPF Program involve the purchase by the FHLBanks of single-family mortgage loans that are originated or acquired by participating financial institutions. These mortgage loans are credit-enhanced by participating financial institutions or are guaranteed or insured by Federal agencies. The FHLBanks are authorized to hold acquired member assets, such as assets acquired under the MPP and MPF Program.

Table 10.1 - Mortgage Loans Held for Portfolio
(dollars in millions)

	December 31,	
	2015	2014
Fixed-rate, long-term single-family mortgage loans	$ 36,346	$ 34,738
Fixed-rate, medium-term(1) single-family mortgage loans	7,422	8,134
Total unpaid principal balance	43,768	42,872
Premiums	775	692
Discounts	(52)	(69)
Deferred loan costs, net	(3)	(1)
Hedging adjustments	115	121
Total mortgage loans held for portfolio	$ 44,603	$ 43,615

(1) Medium-term is defined as a term of 15 years or less.

Table 10.2 - Mortgage Loans Held for Portfolio by Collateral/Guarantee Type
(dollars in millions)

	December 31,	
	2015	2014
Conventional mortgage loans	$ 39,320	$ 37,945
Government-guaranteed or -insured mortgage loans	4,448	4,927
Total unpaid principal balance	$ 43,768	$ 42,872

Note 11 - Allowance for Credit Losses

Each FHLBank has established an allowance methodology for its applicable portfolio segments:

- credit products (advances, letters of credit, and other extensions of credit to borrowers);
- government-guaranteed or -insured mortgage loans held for portfolio;
- conventional MPF loans held for portfolio and conventional MPP loans held for portfolio;
- term federal funds sold; and
- term securities purchased under agreements to resell.

Credit Products

Each FHLBank manages its credit exposure to credit products through an integrated approach that includes establishing a credit limit for each borrower, includes an ongoing review of each borrower's financial condition, and is coupled with collateral and lending policies to limit risk of loss while balancing borrowers' needs for a reliable source of funding. In addition, each FHLBank lends to eligible borrowers in accordance with federal statutes and FHFA regulations. Specifically, each FHLBank complies with the FHLBank Act, which requires the FHLBank to obtain sufficient collateral to fully secure credit products. The estimated value of the collateral required to secure each member's credit products is calculated by applying collateral discounts, or haircuts, to the market value or unpaid principal balance of the collateral, as applicable. Each FHLBank accepts certain investment securities, residential mortgage loans, deposits, and other real estate related assets as collateral. In addition, community financial institutions are eligible to use expanded statutory collateral provisions for small business, agriculture loans, and community development loans. The FHLBank capital stock owned by each borrower is also pledged as collateral. Collateral arrangements may vary depending upon borrower credit quality, financial condition, and performance; borrowing capacity; and overall credit exposure to the borrower. Each FHLBank can also require additional or substitute collateral to protect its security interest. Management of each FHLBank believes that these policies effectively manage that FHLBank's respective credit risk from credit products.

Based upon the financial condition of the borrower, an FHLBank either allows a borrower to retain physical possession of the collateral assigned to it, or requires the borrower to specifically assign or place physical possession of the collateral with the FHLBank or its safekeeping agent. Each FHLBank perfects its security interest in all pledged collateral. The FHLBank Act states that any security interest granted to an FHLBank by a borrower will have priority over the claims or rights of any other party, except for claims or rights of a third party that would be entitled to priority under otherwise applicable law and are held by a bona fide purchaser for value or by a secured party holding a prior perfected security interest.

Using a risk-based approach and taking into consideration each borrower's financial strength, the FHLBanks consider the types and level of collateral to be the primary indicator of credit quality on their credit products. At December 31, 2015 and 2014, each FHLBank had rights to collateral on a borrower-by-borrower basis with an estimated value equal to, or greater than, its outstanding extensions of credit.

Each FHLBank continues to evaluate and make changes to its collateral guidelines, as necessary, based on current market conditions. At December 31, 2015 and 2014, none of the FHLBanks had any credit products that were past due, on non-accrual status, or considered impaired. In addition, there were no troubled debt restructurings related to credit products at any FHLBank during the years ended December 31, 2015 and 2014.

Based on the collateral held as security, each FHLBank management's credit extension and collateral policies and repayment history on credit products, no FHLBank has incurred any losses on its credit products. Accordingly, at December 31, 2015 and 2014, no FHLBank recorded any allowance for credit losses on these credit products, and no FHLBank recorded any liability to reflect an allowance for credit losses for off-balance sheet credit exposures. (See *Note 21 - Commitments and Contingencies* for additional information on the FHLBanks' off-balance sheet credit exposure.)

Government-Guaranteed or -Insured Mortgage Loans Held for Portfolio

An FHLBank invests in fixed-rate mortgage loans that are insured or guaranteed by the Federal Housing Administration, the Department of Veterans Affairs, the Rural Housing Service of the Department of Agriculture, and/or the Department of Housing and Urban Development. 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 guarantee or insurance 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 servicer. Therefore, each FHLBank only has credit risk for these loans if the servicer fails to pay for losses not covered by the guarantee or insurance. Based on each FHLBank's assessment of its servicers, no FHLBank established an allowance for credit losses for its government-guaranteed or -insured mortgage loan portfolio at December 31, 2015 and 2014. Furthermore, none of these mortgage loans has been placed on non-accrual status because of the U.S. government guarantee or insurance on these loans and the contractual obligation of the loan servicer to repurchase the loans when certain criteria are met.

Mortgage Loans Held for Portfolio - Conventional MPF and Conventional MPP

Each FHLBank determines its allowances for conventional loans through analyses that include consideration of various data observations, such as past performance, current performance, loan portfolio characteristics, collateral-related characteristics, industry data, and prevailing economic conditions. The measurement of the allowance for loan losses may consist of: (1) mortgage loans evaluated at the individual master commitment level; (2) individually evaluated mortgage loans including collateral dependent mortgage loans; (3) collectively evaluated mortgage loans; or (4) estimating additional credit losses on mortgage loans.

Mortgage Loans Evaluated at the Individual Master Commitment Level. The credit risk analysis of all conventional MPF loans is performed at the individual master commitment level to determine the credit enhancements available to recover losses on MPF loans under each individual master commitment.

Individually Evaluated Mortgage Loans Including Collateral Dependent Mortgage Loans. Certain conventional mortgage loans, primarily impaired mortgage loans that are considered collateral dependent, may be specifically identified for purposes of calculating the allowance for credit losses. A mortgage loan is considered collateral dependent if repayment is only expected to be provided by the sale of the underlying property - that is, if it is considered likely that the borrower will default and there is no credit enhancement from a participating financial institution to offset losses under the master commitment. The estimated credit losses on impaired collateral-dependent loans may be separately determined because sufficient information exists to make a reasonable estimate of the inherent loss on these loans on an individual loan basis. An FHLBank may estimate the fair value of this collateral by applying an appropriate loss severity rate or using third party estimates or property valuation model(s). The resulting incurred loss is equal to the difference between the carrying value of the loan and the estimated fair value of the collateral less estimated selling costs.

Collectively Evaluated Mortgage Loans. The credit risk analysis of conventional loans evaluated collectively for impairment by an FHLBank considers loan pool specific attribute data, including historical delinquency migration, applies estimated loss severities, and incorporates the associated credit enhancements in order to determine the FHLBank's best estimate of probable incurred losses at the reporting date. Migration analysis is a methodology for determining, through an FHLBank's experience over a historical period, the rate of default on pools of similar loans. Certain FHLBanks apply migration analysis to loans based on payment status categories, such as current, 30, 60, and 90 days past due as well as to loans 60 days past due following receipt of notice of filing from the bankruptcy court. Each FHLBank then estimates how many loans in these categories may migrate to a realized loss position and applies a loss severity factor to estimate losses incurred at the statement of condition date. The losses are then reduced by the probable cash flows resulting from available credit enhancements. Credit enhancement cash flows that are projected and assessed as not probable of receipt are not considered in reducing the estimated losses.

Estimating Additional Credit Losses on Mortgage Loans. Certain FHLBanks also assess other factors in the estimation of loan losses for their respective homogeneous loan population. These factors represent subjective management judgment based on facts and circumstances that exist as of the reporting date that are unallocated to any specific measurable economic or credit event and are intended to cover other inherent losses that may not otherwise be captured in the methodology. Therefore, the allowance for credit losses that includes these factors represents management's best estimate of probable loan losses. However, the actual loss that may occur on homogeneous pools of mortgage loans may be more or less than the estimated loss.

Rollforward of Allowance for Credit Losses on Mortgage Loans. Each FHLBank established an allowance for credit losses on its conventional mortgage loans held for portfolio. Table 11.1 presents a rollforward of the allowance for credit losses on mortgage loans for the years ended December 31, 2015, 2014, and 2013, and Table 11.2 presents the recorded investment in mortgage loans by impairment methodology at December 31, 2015 and 2014. The recorded investment in a loan is the unpaid principal balance of the loan, adjusted for accrued interest, net deferred loan fees or costs, unamortized premiums or discounts, fair value hedge adjustments, and direct write-downs. The recorded investment is not net of any valuation allowance.

Table 11.1 - Rollforward of Allowance for Credit Losses on Conventional MPF/MPP Mortgage Loans
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Balance, at beginning of period	$ 52	$ 88	$ 131
Charge-offs, net of recoveries	(38)	(15)	(24)
Provision (reversal) for credit losses	4	(21)	(19)
Balance, at end of period	$ 18	$ 52	$ 88

Table 11.2 - Allowance for Credit Losses and Recorded Investment by Impairment Methodology on Conventional MPF/MPP Mortgage Loans
(dollars in millions)

	December 31,	
	2015	2014
Allowance for credit losses, end of period		
Individually evaluated for impairment	$ 5	$ 29
Collectively evaluated for impairment	13	23
Total allowance for credit losses	$ 18	$ 52
Recorded investment, end of period		
Individually evaluated for impairment	$ 2,661	$ 2,347
Collectively evaluated for impairment	37,594	36,436
Total recorded investment	$ 40,255	$ 38,783

Credit Quality Indicators. Key credit quality indicators for mortgage loans include the migration of past due loans, non-accrual loans, loans in process of foreclosure, and impaired loans. Table 11.3 presents the FHLBanks' key credit quality indicators for mortgage loans at December 31, 2015 and 2014.

Table 11.3 - Recorded Investment in Delinquent Mortgage Loans
(dollars in millions)

	December 31, 2015		
	Conventional MPF/MPP	Government-Guaranteed or -Insured	Total
Past due 30-59 days	$ 402	$ 203	$ 605
Past due 60-89 days	118	61	179
Past due 90 days or more	343	76	419
Total past due mortgage loans	863	340	1,203
Total current mortgage loans	39,392	4,212	43,604
Total mortgage loans(1)	$ 40,255	$ 4,552	$ 44,807
Other delinquency statistics			
In process of foreclosure, included above(2)	$ 183	$ 23	$ 206
Serious delinquency rate(3)	0.86%	1.67%	0.94%
Past due 90 days or more and still accruing interest	$ 66	$ 76	$ 142
Loans on non-accrual status	$ 321	$ —	$ 321

	December 31, 2014		
	Conventional MPF/MPP	Government-Guaranteed or -Insured	Total
Past due 30-59 days	$ 516	$ 265	$ 781
Past due 60-89 days	146	73	219
Past due 90 days or more	503	119	622
Total past due mortgage loans	1,165	457	1,622
Total current mortgage loans	37,618	4,579	42,197
Total mortgage loans(1)	$ 38,783	$ 5,036	$ 43,819
Other delinquency statistics			
In process of foreclosure, included above(2)	$ 283	$ 37	$ 320
Serious delinquency rate(3)	1.31%	2.38%	1.43%
Past due 90 days or more and still accruing interest	$ 113	$ 119	$ 232
Loans on non-accrual status	$ 444	$ —	$ 444

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(1) The difference between the recorded investment and the carrying value of total mortgage loans of $204 million at both December 31, 2015 and 2014, primarily relates to accrued interest. (See *Note 10 - Mortgage Loans* for details on the carrying values of total mortgage loans.)

(2) Includes loans where the decision of foreclosure or a similar alternative, such as pursuit of deed-in-lieu, has been reported. Loans in the process of foreclosure are included in past due or current loans depending on their delinquency status.

(3) Represents seriously delinquent loans as a percentage of total mortgage loans. Seriously delinquent loans are comprised of all loans past due 90 days or more delinquent or loans that are in the process of foreclosure (including past due or current loans in the process of foreclosure).

Individually Evaluated Impaired Loans. Table 11.4 presents the recorded investment, unpaid principal balance, and related allowance of impaired conventional MPF/MPP mortgage loans individually assessed for impairment at December 31, 2015 and 2014, and Table 11.5 presents the average recorded investment and related interest income recognized on these loans during the years ended December 31, 2015, 2014, and 2013.

Table 11.4 - Individually Evaluated Impaired Conventional MPF/MPP Mortgage Loans
(dollars in millions)

	December 31, 2015			December 31, 2014		
	Recorded Investment	Unpaid Principal Balance	Related Allowance	Recorded Investment	Unpaid Principal Balance	Related Allowance
With no related allowance	$ 312	$ 321	$ —	$ 141	$ 140	$ —
With an allowance	37	37	5	256	253	28
Total	$ 349	$ 358	$ 5	$ 397	$ 393	$ 28

Table 11.5 - Average Recorded Investment of Individually Impaired Conventional MPF/MPP Mortgage Loans and Related Interest Income Recognized
(dollars in millions)

	Year Ended December 31,					
	2015		2014		2013	
	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized
With no related allowance	$ 356	$ 4	$ 137	$ 3	$ 80	$ 1
With an allowance	43	1	286	1	322	1
Total	$ 399	$ 5	$ 423	$ 4	$ 402	$ 2

Credit Enhancements. An FHLBank's allowance for credit losses considers the credit enhancements associated with conventional mortgage loans under the MPF Program and MPP. These credit enhancements apply after a homeowner's equity is exhausted. Credit enhancements may include primary mortgage insurance, supplemental mortgage insurance, the credit enhancement amount plus any recoverable performance-based credit enhancement fees (for MPF loans), and Lender Risk Account (for MPP loans). The amount of credit enhancements estimated to protect an FHLBank against credit losses is determined through the use of a validated model. Any incurred losses that would be recovered from the credit enhancements are not reserved as part of an FHLBank's allowance for credit losses on mortgage loans.

Mortgage Partnership Finance Program. The conventional MPF loans held for portfolio are required to be credit enhanced so that the risk of loss is limited to the losses equivalent to an investor in a double-A rated mortgage-backed security at the time of purchase. Each MPF FHLBank and its participating financial institution share the risk of credit losses on conventional MPF loan products held for portfolio, by structuring potential losses into layers with respect to each master commitment. Each MPF FHLBank analyzes the risk characteristics of its MPF loans using a model from a nationally recognized statistical rating organization or an equivalent model using a comparable methodology to determine the amount of credit enhancement at the time of purchase. This credit enhancement amount is broken into a First Loss Account and a credit enhancement obligation of a participating financial institution, which is calculated based on the risk analysis to equal the difference between the amounts needed for the master commitment to have a rating equivalent to a double-A rated mortgage-backed security and an MPF FHLBank's initial First Loss Account exposure.

The First Loss Account represents the first layer or portion of credit losses that each MPF FHLBank absorbs with respect to its MPF loans after considering the borrower's equity, primary mortgage insurance, and recoverable credit enhancement fees. The participating financial institution is required to cover the next layer of losses up to an agreed-upon credit enhancement obligation amount, which may consist of a direct liability of the participating financial institution to pay credit losses up to a specified amount, a contractual obligation of a participating financial institution to provide supplemental mortgage insurance, or a combination of both. Any remaining unallocated losses are absorbed by the MPF FHLBank.

Participating financial institutions are paid a credit enhancement fee for assuming credit risk, and in some instances all or a portion of the credit enhancement fee may be performance-based. An MPF FHLBank's losses incurred under the First Loss Account may be recovered by withholding future performance-based credit enhancement fees otherwise payable to the participating financial institutions. If at any time an MPF FHLBank cancels all or a portion of its supplemental mortgage insurance policies required under certain MPF products, that MPF FHLBank will hold additional retained earnings to protect against losses and no performance-based credit enhancement fees are paid to the participating financial institution.

At December 31, 2015 and 2014, the amounts of First Loss Account remaining to cover the losses under the MPF program were $385 million and $389 million. This balance excludes amounts that may be recovered through the recapture of performance-based credit enhancement fees. An FHLBank records credit enhancement fees paid to the participating financial institutions as a reduction to mortgage interest income. Credit enhancement fees totaled $21 million, $22 million, and $22 million for the years ended December 31, 2015, 2014, and 2013.

Unlike conventional MPF products held for portfolio, under the MPF Xtra, MPF Direct, MPF Government, and MPF Government MBS products, participating financial institutions are not required to provide credit enhancement and do not receive credit enhancement fees. Loans sold to the FHLBank of Chicago under the MPF Xtra and MPF Direct products are concurrently sold to third-party investors, and are not held on the participating MPF FHLBank's statement of condition. (See Note 21 - Commitments and Contingencies for additional information.)

Mortgage Purchase Program. The conventional mortgage loans under the MPP are supported by a combination of primary mortgage insurance, supplemental mortgage insurance, and Lender Risk Account, in addition to the associated property as collateral. The Lender Risk Account is funded by an MPP FHLBank either upfront as a portion of the purchase proceeds or through a portion of the net interest remitted monthly by the borrower. The Lender Risk Account is a lender-specific account funded by an MPP FHLBank in an amount approximately sufficient to cover expected losses on the pool of mortgages. The Lender Risk Account is recorded in other liabilities on the Combined Statement of Condition. To the extent available, Lender Risk Account funds are used to offset any losses that occur. Typically after five years, excess funds over required balances are distributed to the member in accordance with a step-down schedule that is established upon execution of a master commitment contract. The Lender Risk Account is released in accordance with the terms of the master commitment.

Table 11.6 - Changes in the MPP Lender Risk Account
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Balance, at beginning of period	$ 191	$ 161	$ 138
Additions	65	40	36
Claims	(4)	(6)	(10)
Scheduled distributions	(4)	(4)	(3)
Balance, at end of period	$ 248	$ 191	$ 161

Troubled Debt Restructurings. A troubled debt restructuring is considered to have occurred when a concession is granted to a borrower for economic or legal reasons related to the borrower's financial difficulties and that concession would not have been considered otherwise. An FHLBank has granted a concession when it does not expect to collect all amounts due to the FHLBank under the original contract as a result of the restructuring. Loans outstanding as of December 31, 2015 and 2014 that are discharged in Chapter 7 bankruptcy and have not been reaffirmed by the borrowers are also considered to be troubled debt restructurings, except in certain cases where supplemental mortgage insurance policies are held or where all contractual amounts due are still expected to be collected as a result of certain credit enhancements or government guarantees. As of December 31, 2015 and 2014, the recorded investment balances of mortgage loans classified as troubled debt restructurings were $169 million and $179 million.

An FHLBank's MPF loan troubled debt restructurings primarily involve modifying the borrower's monthly payment for a period of up to 36 months to achieve a housing expense ratio of no more than 31% of their qualifying monthly income. The outstanding principal balance is first re-amortized to reflect a principal and interest payment for a term not to exceed 40 years. This would result in a balloon payment at the original maturity date of the loan as the maturity date and the number of remaining monthly payments are not adjusted. If the 31% housing expense ratio is not achieved through re-amortization, the interest rate is reduced in 0.125% increments below the original note rate, to a floor rate of 3.00%, resulting in reduced principal and interest payments, for the temporary payment modification period of up to 36 months, until the desired 31% housing expense ratio is met.

An FHLBank's MPP loan troubled debt restructurings primarily involve loans where an agreement permits the recapitalization of past due amounts up to the original loan amount. Under this type of modification, no other terms of the original loan are modified, including the borrower's original interest rate and contractual maturity.

An MPF or MPP loan considered to be a troubled debt restructuring is individually evaluated for impairment when determining its 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, if applicable.

Real Estate Owned. The FHLBanks had $57 million and $73 million of real estate owned recorded in other assets on the Combined Statement of Condition at December 31, 2015 and 2014.

Term Federal Funds Sold and Term Securities Purchased Under Agreements to Resell

These investments are generally short-term, their recorded balance approximates fair value, and they are generally transacted with counterparties that are considered by an individual FHLBank to be of investment quality. FHLBank investments in federal funds are evaluated for purposes of a reserve 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 contractual terms as of December 31, 2015 and 2014. Securities purchased under agreements to resell are considered collateralized financing arrangements and effectively represent short-term loans. The terms of these loans are structured such that if the market value of the underlying securities decreases below the market 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 charged to earnings. Based upon the collateral held as security, each FHLBank determined that no allowance for credit losses was needed for its securities purchased under agreements to resell at December 31, 2015 and 2014.

Note 12 - Derivatives and Hedging Activities

Nature of Business Activity

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

Consistent with FHFA regulation, an FHLBank enters into derivatives: (1) to manage the interest-rate risk exposures inherent in its otherwise unhedged assets and funding positions, (2) to achieve the FHLBank's risk management objectives, and (3) to act as an intermediary between its members and counterparties. FHFA regulation and each FHLBank's risk management policy prohibit trading in or the speculative use of these derivative instruments and limit credit risk arising from these instruments. The use of derivatives is an integral part of each FHLBank's financial management strategy.

The most common ways in which an FHLBank uses derivatives are to:

- 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;
- reduce the interest-rate sensitivity and repricing gaps of assets and liabilities;
- 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 used to fund the advance). Without the use of derivatives, this interest-rate spread could be reduced or eliminated when a change in the interest rate on the advance does not match a change in the interest rate on the bond;
- mitigate the adverse earnings effects of the shortening or extension of certain assets (e.g., advances or mortgage assets) and liabilities;
- protect the value of existing asset or liability positions or of anticipated transactions;
- manage embedded options in assets and liabilities; and
- manage its overall asset/liability portfolio.

Application of Derivatives

Derivative financial instruments may be used by an FHLBank as follows:

- As a fair value or cash flow hedge of an associated financial instrument, a firm commitment or an anticipated transaction.

- As an economic hedge to manage certain defined risks on its statement of condition. These hedges are primarily used to manage mismatches between the coupon features of its assets and liabilities and offset prepayment risks in certain assets. For example, an FHLBank may use derivatives in its overall interest-rate risk management activities to manage the interest-rate sensitivity of consolidated obligations to approximate more closely the interest-rate sensitivity of its assets (both advances and investments), and to manage the interest-rate sensitivity of advances or investments to approximate more closely the interest-rate sensitivity of its liabilities. In addition, to reduce its exposure to reset risk, an FHLBank may occasionally enter into forward-rate agreements, which are also treated as economic hedges.

- As an intermediary hedge to meet the asset or liability management needs of its members. An FHLBank acts as an intermediary by entering into derivatives with its members and offsetting derivatives with other counterparties. This intermediation grants smaller members indirect access to the derivatives market. The derivatives used in intermediary activities do not receive hedge accounting treatment and are separately marked-to-market through earnings. The net result of the accounting for these derivatives does not significantly affect the operating results of the FHLBanks.

Derivative financial instruments are used by an FHLBank when they are considered to be the most cost-effective alternative to achieve the FHLBank's financial and risk management objectives. Each FHLBank reevaluates its hedging strategies from time to time and may change the hedging techniques it uses or may adopt new strategies.

Each FHLBank 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. Derivative transactions may be either executed with a counterparty (uncleared derivatives) or cleared through a Futures Commission Merchant (i.e., clearing agent) with a Derivative Clearing Organization (cleared derivatives).

Once a derivative transaction has been accepted for clearing by a Derivative Clearing Organization (Clearinghouse), the derivative transaction is novated and the executing counterparty is replaced with the Clearinghouse. FHLBanks are not derivative dealers and do not trade derivatives for short-term profit.

Types of Derivatives

An FHLBank may use the following instruments 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 paid 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 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 amount at a variable-rate index for the same period of time. The variable rate received or paid by the FHLBanks in most derivative transactions is the London Interbank Offered Rate (LIBOR).

Options. An option is an agreement between two entities that conveys the right, but not the obligation, to engage in a future transaction on some underlying security or other financial asset at an agreed-upon price during a certain period of time or on a specific date. Premiums paid to acquire options in fair value hedging relationships are considered the fair value of the derivative at inception of the hedge and are reported in derivative assets or derivative liabilities.

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 an FHLBank that is planning to lend or borrow funds in the future against future interest rate changes. The FHLBanks 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 and floors are designed as protection against the interest rate on a variable-rate asset or liability falling below or rising above a certain level.

Futures and Forwards Contracts. An FHLBank may use futures and forward contracts in order to hedge interest-rate risk. For example, certain mortgage purchase commitments entered into by an FHLBank are considered derivatives. An FHLBank may hedge these commitments by selling to-be-announced (TBA) mortgage-backed securities for forward settlement. A TBA represents a forward contract for the sale of mortgage-backed securities at a future agreed upon date for an established price.

Types of Hedged Items

Each FHLBank documents at inception 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 or cash flow hedges to: (1) assets and liabilities on the statement of condition, (2) firm commitments, or (3) forecasted transactions. An FHLBank also formally assesses (both at the hedge's inception and at least quarterly) whether the derivatives that it uses in hedging transactions have been effective in offsetting changes in the fair value or cash flows of the hedged items attributable to the hedged risk and whether those derivatives may be expected to remain effective in future periods. An FHLBank typically uses regression analyses or other statistical analyses to assess the effectiveness of its hedges.

Investments. The FHLBanks classify investment securities as held-to-maturity, available-for-sale, or trading securities. The interest-rate and prepayment risks associated with these investment securities are managed through a combination of debt issuance and derivatives. An FHLBank may manage the prepayment and interest-rate risks by funding investment securities with consolidated obligations that have call features or by hedging the prepayment risk with caps or floors, callable swaps or swaptions. An FHLBank may manage prepayment and duration risk by funding investment securities with consolidated obligations that contain call features. An FHLBank may also manage the risk arising from changing market prices and volatility of investment securities by matching the cash outflow on the derivatives with the cash inflow on the investment securities. Derivatives held by an FHLBank that are associated with trading and held-to-maturity securities are designated as economic hedges and derivatives held by an FHLBank associated with available-for-sale securities may qualify as either a fair value hedge, economic hedge, or a cash flow hedge.

Advances. The FHLBanks offer a wide array of advance structures to meet members' funding needs. These advances may have maturities up to 30 years with variable or fixed rates and may include early termination features or options. The repricing characteristics and optionality embedded in certain advances may create interest-rate risk. An FHLBank may use derivatives to manage the repricing and/or option characteristics of advances in order to approximate more closely the characteristics of that FHLBank's funding liabilities. In general, whenever a member executes a fixed-rate advance or a variable-rate advance with embedded options, the FHLBank will simultaneously execute a derivative with terms that offset the terms and embedded options, if any, in the advance. For example, the FHLBank may hedge a fixed-rate advance with an interest-rate swap where the FHLBank 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.

When issuing convertible advances, an FHLBank has the right to convert to/from a fixed-rate advance from/to a variable-rate advance if interest rates increase/decrease. A convertible advance carries an interest rate lower than a comparable-maturity fixed-rate advance that does not have the conversion feature. With a putable advance, an FHLBank effectively purchases a put option from the member that allows the FHLBank to put or extinguish the fixed-rate advance, which the FHLBank normally would exercise when interest rates increase. An FHLBank may hedge these advances by entering into a cancelable derivative.

Mortgage Loans. The FHLBanks invest in fixed-rate mortgage loans. The prepayment options embedded in these mortgage loans can result in extensions or contractions in the expected repayment of these investments, depending on changes in estimated prepayment speeds. The FHLBanks manage the interest-rate and prepayment risks associated with mortgages through a combination of debt issuance and derivatives. The FHLBanks issue both callable and non-callable debt and prepayment-linked consolidated obligations to achieve cash flow patterns and liability durations similar to those expected on the mortgage loans. Interest-rate swaps, to the extent the payments on the mortgages result in a simultaneous reduction of the notional amount on the swaps, may receive fair value hedge accounting.

A combination of swaps and options, including futures, may be used as a portfolio of derivatives linked to a portfolio of mortgage loans. The portfolio of mortgage loans consists of one or more pools of similar assets, as determined by factors such as product type and coupon. As the portfolio of loans changes due to new loans, liquidations, and payments, the derivative portfolio is modified accordingly to hedge the interest-rate and prepayment risks effectively. A new hedging relationship is created and is treated as a fair value hedge.

Options may also be used to hedge prepayment risk on the mortgages, many of which are not identified to specific mortgages, and therefore do not receive fair value or cash flow hedge accounting treatment. The FHLBanks may also 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 economic hedges against the prepayment risk of the loans, they are not specifically linked to individual loans and therefore do not receive either fair value or cash flow hedge accounting. These derivatives are marked-to-market through earnings.

Consolidated Obligations. An FHLBank enters into derivatives to hedge the interest-rate risk associated with its specific debt issuances. An FHLBank 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 example, fixed-rate consolidated obligations may be issued for one or more FHLBanks, and each of those FHLBanks may simultaneously enter into a matching derivative in which the counterparty pays fixed cash flows to the FHLBank, which are designed to match in timing and amount the cash outflows the FHLBank pays on the consolidated obligation. The FHLBank pays a variable cash flow that closely matches the interest payments it receives on short-term or variable-rate advances (typically one- or three-month LIBOR). These transactions are typically treated as fair value hedges. The FHLBanks may issue variable-rate consolidated bonds indexed to the federal funds effective rate, LIBOR, or others and simultaneously execute interest-rate swaps to hedge the basis risk of the variable-rate debt.

This strategy of issuing bonds while simultaneously entering into derivatives enables an FHLBank to offer a wider range of attractively-priced advances to its members and may allow an FHLBank to reduce its funding costs. The continued attractiveness of this strategy depends on yield relationships between the bond and derivative markets. If conditions in these markets change, an FHLBank may alter the types or terms of the bonds that it issues. By acting in both the capital and the swap markets, the FHLBanks can raise funds at lower costs than through the issuance of simple fixed- or variable-rate consolidated obligations in the capital markets alone.

Anticipated Streams of Future Cash Flows. An FHLBank may enter into an option to hedge a specified future variable cash stream as a result of rolling over short-term, fixed-rate financial instruments, such as LIBOR advances and consolidated discount notes. The option will effectively cap the variable cash stream at a predetermined target rate.

Firm Commitments. Certain mortgage purchase commitments are considered derivatives. An FHLBank normally hedges these commitments by selling TBA mortgage-backed securities or other derivatives for forward settlement. The mortgage purchase commitment and the TBA used in the firm commitment hedging strategy (economic hedge) are recorded as a derivative asset or derivative liability at fair value, with changes in fair value recognized in current period earnings. When the mortgage purchase commitment derivative settles, the current market value of the commitment is included with the basis of the mortgage loan and amortized accordingly.

An FHLBank may also hedge 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. If the hedge relationship is de-designated when the commitment is terminated and the advance is issued, the fair value change associated with the firm commitment is recorded as a basis adjustment of the advance. The basis adjustment is then amortized into interest income over the life of the advance. In addition, if a hedged firm commitment no longer qualifies as a fair value hedge, the hedge would be terminated and net gains and losses would be recognized in current period earnings. There were no material amounts of gains and losses recognized due to disqualification of firm commitment hedges during the years ended December 31, 2015, 2014, and 2013.

Anticipated Debt Issuance. Certain FHLBanks use derivatives to lock in the cost of funding prior to an anticipated debt issuance and designate them as cash flow hedges. The derivative is terminated upon issuance of the debt instrument.

Variable Cash Streams. Certain FHLBanks use derivatives to hedge the variability of cash flows over a specified period of time as a result of the issuances and maturities of short-term, fixed-rate instruments, such as discount notes, and designate them as cash flow hedges. The maturity dates of the cash flow streams are matched to the maturity dates of the derivatives. If the derivatives are terminated prior to their maturity dates, the amount in AOCI is recognized over the remaining lives of the specified cash streams as unrealized gains or losses on hedging activities.

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 reflects the FHLBanks' involvement in the various classes of financial instruments and represents neither the actual amounts exchanged nor the overall exposure of the FHLBanks 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.

Table 12.1 presents the fair value of derivative instruments, including 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.

Table 12.1 - Fair Value of Derivative Instruments
(dollars in millions)

	December 31, 2015			December 31, 2014		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as hedging instruments						
Interest-rate swaps	$ 354,657	$ 1,447	$ 5,636	$ 409,722	$ 1,946	$ 8,413
Interest-rate swaptions	4	—	—	—	—	—
Interest-rate caps or floors	60	—	—	222	—	1
Total derivatives designated as hedging instruments	354,721	1,447	5,636	409,944	1,946	8,414
Derivatives not designated as hedging instruments						
Interest-rate swaps	139,185	605	752	110,906	654	841
Interest-rate swaptions	1,776	41	—	2,250	57	—
Interest-rate caps or floors	28,615	111	12	31,054	159	16
Interest-rate futures or forwards	620	2	—	759	—	7
Mortgage delivery commitments	1,207	2	3	1,172	9	3
Other	176	1	—	220	1	1
Total derivatives not designated as hedging instruments	171,579	762	767	146,361	880	868
Total derivatives before netting and collateral adjustments	$ 526,300	2,209	6,403	$ 556,305	2,826	9,282
Netting adjustments and cash collateral(1)		(1,454)	(5,272)		(2,326)	(7,683)
Total derivative assets and total derivative liabilities		$ 755	$ 1,131		$ 500	$ 1,599

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty. Cash collateral posted and related accrued interest was $4,363 million and $5,855 million at December 31, 2015 and 2014. Cash collateral received and related accrued interest was $544 million and $498 million at December 31, 2015 and 2014.

Table 12.2 presents the components of net gains (losses) on derivatives and hedging activities as presented on the Combined Statement of Income.

Table 12.2 - Net Gains (Losses) on Derivatives and Hedging Activities
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Derivatives designated as hedging instruments			
Total net gains related to fair value hedge ineffectiveness(1)	$ 230	$ 74	$ 239
Total net gains related to cash flow hedge ineffectiveness	2	1	3
Derivatives not designated as hedging instruments			
Economic hedges			
Interest-rate swaps	9	(29)	298
Interest-rate swaptions	3	(13)	(44)
Interest-rate caps or floors	(44)	(126)	(47)
Interest-rate futures or forwards	(5)	(30)	11
Net interest settlements	(33)	(70)	(25)
Mortgage delivery commitments	18	44	(19)
Intermediary transactions			
Interest-rate swaps	2	1	—
Total net gains (losses) related to derivatives not designated as hedging instruments	(50)	(223)	174
Net gains (losses) on derivatives and hedging activities	$ 182	$ (148)	$ 416

(1) Consists of interest-rate swaps.

Table 12.3 presents, by type of hedged item, the gains (losses) on derivatives and the related hedged items in fair value hedging relationships and the effect of those derivatives on the FHLBanks' net interest income.

Table 12.3 - Effect of Fair Value Hedge-Related Derivative Instruments
(dollars in millions)

	Year Ended December 31, 2015			
Hedged Item Type	**Gains (Losses) on Derivatives**	**Gains (Losses) on Hedged Items**	**Net Fair Value Hedge Ineffectiveness**	**Net Effect of Derivatives on Net Interest Income(1)**
Advances	$ 1,333	$ (1,056)	$ 277	$ (2,807)
Consolidated bonds	(167)	139	(28)	1,870
Consolidated discount notes	(6)	8	2	10
Available-for-sale securities	15	(36)	(21)	(691)
Total	$ 1,175	$ (945)	$ 230	$ (1,618)

	Year Ended December 31, 2014			
Hedged Item Type	**Gains (Losses) on Derivatives**	**Gains (Losses) on Hedged Items**	**Net Fair Value Hedge Ineffectiveness**	**Net Effect of Derivatives on Net Interest Income(1)**
Advances	$ 713	$ (552)	$ 161	$ (3,174)
Consolidated bonds	814	(842)	(28)	2,036
Available-for-sale securities	(670)	611	(59)	(658)
Deposits	(1)	1	—	1
Total	$ 856	$ (782)	$ 74	$ (1,795)

	Year Ended December 31, 2013			
Hedged Item Type	**Gains (Losses) on Derivatives**	**Gains (Losses) on Hedged Items**	**Net Fair Value Hedge Ineffectiveness**	**Net Effect of Derivatives on Net Interest Income(1)**
Advances	$ 5,394	$ (5,154)	$ 240	$ (3,520)
Consolidated bonds	(3,478)	3,437	(41)	2,323
Available-for-sale securities	1,129	(1,089)	40	(548)
Deposits	(2)	2	—	2
Total	$ 3,043	$ (2,804)	$ 239	$ (1,743)

(1) The net effect of derivatives, in fair value hedge relationships, on net interest income is included in the interest income or interest expense line item of the respective hedged item type. These amounts include the effect of net interest settlements attributable to designated fair value hedges but do not include $(297) million, $(126) million and $(52) million of amortization/accretion related to fair value hedging activities for the years ended December 31, 2015, 2014, and 2013.

Table 12.4 presents by type of hedged item in cash flow hedging relationships, the gains (losses) recognized in OCI, the gains (losses) reclassified from AOCI into income, and the effect of those hedging activities on the FHLBanks' net gains (losses) on derivatives and hedging activities on the Combined Statement of Income. (See Note 18 - Accumulated Other Comprehensive Income (Loss) for more details on the effect of cash flow hedges on AOCI.)

Table 12.4 - Effect of Cash Flow Hedge-Related Derivative Instruments
(dollars in millions)

	Year Ended December 31, 2015			
Derivatives and Hedged Items in Cash Flow Hedging Relationships(1)	**Amount of Gains (Losses) Recognized in OCI on Derivatives (Effective Portion)**	**Location of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains Recognized in Net Gains (Losses) on Derivatives and Hedging Activities (Ineffective Portion)**
Interest-rate swaps				
Consolidated bonds	$ (16)	Interest expense	$ (29)	$ —
Consolidated discount notes	120	Interest expense	(3)	2
Interest-rate caps or floors				
Advances	—	Interest income	11	—
Total	$ 104		$ (21)	$ 2

	Year Ended December 31, 2014			
Derivatives and Hedged Items in Cash Flow Hedging Relationships(1)	**Amount of Gains (Losses) Recognized in OCI on Derivatives (Effective Portion)**	**Location of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains Recognized in Net Gains (Losses) on Derivatives and Hedging Activities (Ineffective Portion)**
Interest-rate swaps				
Consolidated bonds	$ (39)	Interest expense	$ (14)	$ —
Consolidated discount notes	34	Interest expense	(2)	1
Interest-rate caps or floors				
Advances	—	Interest income	11	—
Total	$ (5)		$ (5)	$ 1

	Year Ended December 31, 2013			
Derivatives and Hedged Items in Cash Flow Hedging Relationships(1)	**Amount of Gains (Losses) Recognized in OCI on Derivatives (Effective Portion)**	**Location of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains (Losses) Reclassified from AOCI into Income (Effective Portion)**	**Amount of Gains Recognized in Net Gains (Losses) on Derivatives and Hedging Activities (Ineffective Portion)**
Interest-rate swaps				
Consolidated bonds	$ 14	Interest expense	$ (5)	$ (2)
Consolidated discount notes	526	Interest expense	(2)	5
Interest-rate caps or floors				
Advances	—	Interest income	12	—
Consolidated discount notes	—	Interest expense	(1)	—
Total	$ 540		$ 4	$ 3

(1) Table 12.4 does not include $(276) million, $(281) million, and $(293) million for the effect of net interest settlements on net interest income attributable to open cash flow hedges for the years ended December 31, 2015, 2014, and 2013.

For the years ended December 31, 2015, 2014, and 2013, no material amounts were reclassified from AOCI into earnings as a result of discontinued cash flow hedges because the original forecasted transactions occurred by the end of the originally specified time period or within a two-month period thereafter. At December 31, 2015, $31 million of deferred net losses on derivative instruments in AOCI is expected to be reclassified to earnings during the next twelve months. At December 31, 2015, the maximum length of time over which an FHLBank is hedging its exposure to the variability in future cash flows for forecasted transactions is fifteen years, excluding those forecasted transactions related to the payment of variable interest on existing financial instruments.

Managing Credit Risk on Derivatives

Each FHLBank is subject to credit risk due to the risk of non-performance by counterparties to its derivative transactions, and manages credit risk through credit analysis, collateral requirements, and adherence to the requirements set forth in its policies, U.S. Commodity Futures Trading Commission regulations, and FHFA regulations. For uncleared derivatives, the degree of credit risk depends on the extent to which master netting arrangements are included in these contracts to mitigate the risk. Each FHLBank requires collateral agreements with collateral delivery thresholds on the majority of its uncleared derivatives. Additionally, collateral related to derivatives with member institutions includes collateral assigned to an FHLBank, as evidenced by a written security agreement and held by the member institution for the benefit of that FHLBank.

For cleared derivatives, the Clearinghouse is an FHLBank's counterparty. The Clearinghouse notifies the clearing agent of the required initial and variation margin and the clearing agent in turn notifies the FHLBank. The requirement that an FHLBank post initial and variation margin, through the clearing agent to the Clearinghouse, exposes an FHLBank to 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 for changes in the fair value of cleared derivatives is posted daily through a clearing agent.

Each FHLBank 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 that FHLBank's clearing agent, or both. Based on this analysis, each FHLBank presents a net derivative receivable or payable for all of its transactions through a particular clearing agent with a particular Clearinghouse.

Certain of the FHLBanks' uncleared derivative instruments contain provisions that require an FHLBank to post additional collateral with its counterparties if there is deterioration in that FHLBank's credit rating. If an FHLBank's credit rating is lowered by a nationally recognized statistical rating organization, that FHLBank 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) at December 31, 2015, was $2.8 billion, for which the FHLBanks have posted collateral with a fair value of $2.3 billion in the normal course of business. If each FHLBank's credit rating had been lowered from its current rating to the next lower rating that would have triggered additional collateral to be delivered, the FHLBanks would have been required to deliver an additional $0.3 billion of collateral at fair value to their uncleared derivatives counterparties at December 31, 2015.

For cleared derivatives, the Clearinghouse determines initial margin requirements and generally credit ratings are not factored into the initial margin. However, clearing agents may require additional initial margin to be posted based on credit considerations, including, but not limited to, credit rating downgrades. None of the FHLBanks were required to post additional initial margin by its clearing agents, based on credit considerations, at December 31, 2015.

Offsetting of Derivative Assets and Derivative Liabilities

An FHLBank presents derivative instruments, related cash collateral, including initial and variation margin, received or pledged, and associated accrued interest, on a net basis by clearing agent and/or by counterparty when it has met the netting requirements.

Table 12.5 presents separately the fair value of derivative instruments meeting or not meeting netting requirements, with and without the legal right of offset, including the related collateral received from or pledged to counterparties.

Table 12.5 - Offsetting of Derivative Assets and Derivative Liabilities
(dollars in millions)

	December 31, 2015		December 31, 2014	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
Derivative instruments meeting netting requirements				
Gross recognized amount				
Uncleared derivatives	$ 1,446	$ 4,667	$ 2,278	$ 7,879
Cleared derivatives	761	1,733	539	1,393
Total gross recognized amount	2,207	6,400	2,817	9,272
Gross amounts of netting adjustments and cash collateral				
Uncleared derivatives	(1,384)	(3,550)	(2,166)	(6,293)
Cleared derivatives	(70)	(1,722)	(160)	(1,390)
Total gross amounts of netting adjustments and cash collateral	(1,454)	(5,272)	(2,326)	(7,683)
Net amounts after netting adjustments and cash collateral				
Uncleared derivatives	62	1,117	112	1,586
Cleared derivatives	691	11	379	3
Total net amounts after netting adjustments and cash collateral	753	1,128	491	1,589
Derivative instruments not meeting netting requirements(1)				
Uncleared derivatives	2	3	9	10
Total derivative instruments not meeting netting requirements(1)	2	3	9	10
Total derivative assets and total derivative liabilities				
Uncleared derivatives	64	1,120	121	1,596
Cleared derivatives	691	11	379	3
Total derivative assets and total derivative liabilities presented on the Combined Statement of Condition	755	1,131	500	1,599
Non-cash collateral received or pledged not offset				
Can be sold or repledged				
Uncleared derivatives	12	64	26	66
Cleared derivatives	—	—	—	3
Total can be sold or repledged	12	64	26	69
Cannot be sold or repledged				
Uncleared derivatives	16	332	44	393
Cleared derivatives(2)	—	11	(67)	—
Total cannot be sold or repledged	16	343	(23)	393
Net amount(3)				
Uncleared derivatives	36	724	51	1,137
Cleared derivatives	691	—	446	—
Total net amount(3)	$ 727	$ 724	$ 497	$ 1,137

(1) Represents derivatives that are not subject to an enforceable netting agreement (e.g., mortgage delivery commitments and certain interest-rate futures or forwards).
(2) The $67 million represents non-cash collateral pledged for initial margin for cleared derivatives at December 31, 2014.
(3) Any overcollateralization at an FHLBank's individual clearing agent and/or counterparty level is not included in the determination of the net amount. At December 31, 2015 and 2014, the FHLBanks had additional net credit exposure of $353 million and $41 million due to instances where an FHLBank's non-cash collateral to a counterparty exceeded the FHLBank's net derivative liability position.

Note 13 - Deposits

The FHLBanks offer demand and overnight deposit programs to members and qualifying non-members. In addition, certain FHLBanks offer short-term interest-bearing deposit programs to members, and in certain cases, qualifying non-members. A member that services mortgage loans may deposit in its FHLBank funds collected in connection with the mortgage loans, pending disbursement of these funds to the owners of the mortgage loans. The FHLBanks classify these items as other deposits.

Deposits classified as demand, overnight, and other pay interest based on a daily interest rate. Term deposits pay interest based on a fixed rate determined at the issuance of the deposit. The weighted-average interest rates paid on interest-bearing deposits were 0.03%, 0.02%, and 0.03% during the years ended December 31, 2015, 2014, and 2013.

Table 13.1 - Deposits
(dollars in millions)

	December 31, 2015	December 31, 2014
Interest-bearing		
Demand and overnight	$ 7,635	$ 7,302
Term	489	403
Other	15	619
Total interest-bearing	8,139	8,324
Non-interest-bearing		
Demand and overnight	252	595
Other	142	145
Total non-interest-bearing	394	740
Total deposits	$ 8,533	$ 9,064

The aggregate amount of term deposits with a denomination of $250 thousand or more was $488 million and $399 million at December 31, 2015 and 2014.

Note 14 - Consolidated Obligations

Consolidated obligations consist of consolidated bonds and consolidated discount notes. The FHLBanks issue consolidated obligations through the Office of Finance as their agent. In connection with each debt issuance, an FHLBank specifies the amount of debt it wants issued on its behalf. The Office of Finance tracks the amount of debt issued on behalf of each FHLBank. In addition, each FHLBank records as a liability its specific portion of consolidated obligations for which it is the primary obligor.

The FHFA and the Secretary of the Treasury oversee the issuance of FHLBank debt through the Office of Finance. Consolidated bonds are issued primarily to raise intermediate- and long-term funds for the FHLBanks and are not subject to any statutory or regulatory limits on their maturity. Consolidated discount notes are issued primarily to raise short-term funds and have original maturities of up to one year. These notes generally sell at or below their face value and are redeemed at par when they mature.

Although each FHLBank is primarily liable for its portion of consolidated obligations, each FHLBank is also jointly and severally liable with the other FHLBanks for the payment of principal and interest on all consolidated obligations of the FHLBanks. The par values of the FHLBanks' outstanding consolidated obligations, including consolidated obligations held by other FHLBanks, were $905.2 billion and $847.2 billion at December 31, 2015 and 2014. The FHFA, 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 that FHLBank. Although an FHLBank has never paid the principal or interest payments due on a consolidated obligation on behalf of another FHLBank, if that event should occur, FHFA regulations provide that the paying FHLBank is entitled to reimbursement from the non-complying FHLBank for any payments made on its behalf and other associated costs, including interest to be determined by the FHFA. If, however, the FHFA determines that the non-complying FHLBank is unable to satisfy its repayment obligations, then the FHFA may allocate the outstanding liabilities of the non-complying FHLBank among the remaining FHLBanks on a pro-rata basis in proportion to each FHLBank's participation in all consolidated obligations outstanding. The FHFA 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.

Regulations require each FHLBank to maintain unpledged qualifying assets equal to its participation in the consolidated obligations outstanding. Qualifying assets are defined as cash; secured advances; obligations of or fully guaranteed by the United States; obligations, participations, or other instruments of or issued by Fannie Mae or Ginnie Mae; mortgages, obligations, or other securities which are or ever have been sold by Freddie Mac under the FHLBank Act; and such securities as fiduciary and trust funds may invest in under the laws of the state in which the FHLBank is located. Any assets subject to a lien or pledge for the benefit of holders of any issue of consolidated obligations are treated as if they were free from lien or pledge for purposes of compliance with these regulations.

Table 14.1 - Consolidated Discount Notes Outstanding
(dollars in millions)

	Book Value	Par Value	Weighted-Average Interest Rate(1)
December 31, 2015	$ 494,055	$ 494,343	0.26%
December 31, 2014	$ 362,303	$ 362,363	0.09%

(1) Represents yield to maturity excluding concession fees.

Table 14.2 - Consolidated Bonds Outstanding by Contractual Maturity
(dollars in millions)

	December 31,			
	2015		2014	
Year of Contractual Maturity	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
Due in 1 year or less	$ 192,642	0.75%	$ 220,231	0.44%
Due after 1 year through 2 years	86,088	1.27%	78,195	1.42%
Due after 2 years through 3 years	40,794	1.52%	55,369	1.80%
Due after 3 years through 4 years	22,917	1.89%	32,758	1.61%
Due after 4 years through 5 years	20,628	2.11%	30,383	1.80%
Thereafter	47,354	2.82%	67,069	2.58%
Index-amortizing notes	158	4.73%	516	4.53%
Total par value	410,581	1.31%	484,521	1.22%
Net premiums	646		513	
Hedging adjustments	721		1,011	
Fair value option valuation adjustments	(21)		(14)	
Total	$ 411,927		$ 486,031	

Consolidated obligations outstanding were issued with either fixed-rate coupon payment terms or variable-rate coupon payment terms that may use a variety of indices for interest-rate resets, including the federal funds effective rate, LIBOR, and others. To meet the specific needs of certain investors in consolidated obligations, both fixed-rate consolidated bonds and variable-rate consolidated bonds may contain features that result in complex coupon payment terms and call options. When these consolidated obligations are issued, an FHLBank typically enters into derivatives containing features that offset the terms and embedded options, if any, of the consolidated bond obligations.

Table 14.3 - Consolidated Bonds Outstanding by Call Features
(dollars in millions)

	December 31,	
Par Value of Consolidated Bonds	2015	2014
Non-callable/non-putable	$ 336,930	$ 339,841
Callable	73,651	144,680
Total par value	$ 410,581	$ 484,521

Table 14.4 - Consolidated Bonds Outstanding by Contractual Maturity or Next Call Date
(dollars in millions)

Year of Contractual Maturity or Next Call Date	December 31, 2015	December 31, 2014
Due in 1 year or less	$ 260,664	$ 341,839
Due after 1 year through 2 years	80,929	65,682
Due after 2 years through 3 years	25,982	31,662
Due after 3 years through 4 years	13,234	13,162
Due after 4 years through 5 years	9,956	10,022
Thereafter	19,658	21,638
Index-amortizing notes	158	516
Total par value	$ 410,581	$ 484,521

Consolidated bonds, beyond having fixed-rate or simple variable-rate interest-rate payment terms, may also have the following interest-rate payment types:

- *Step-up bonds* pay interest at increasing fixed rates and *step-down bonds* pay interest at decreasing fixed rates for specified intervals over the life of the consolidated bond. These consolidated bonds generally contain provisions enabling an FHLBank to call consolidated bonds at its option on the step-up or step-down dates.

- *Conversion bonds* have interest rates that convert from fixed to variable, or variable to fixed, or from one index to another, on predetermined dates according to the terms of the consolidated bond offerings.

- *Range bonds* pay interest based on the number of days a specified index is within/outside of a specified range. The computation of the variable interest rate differs for each consolidated bond issue, but the consolidated bond generally pays zero interest or a minimal rate if the specified index is outside of the specified range.

Table 14.5 - Consolidated Bonds by Interest-Rate Payment Type
(dollars in millions)

Par Value of Consolidated Bonds	December 31, 2015	December 31, 2014
Fixed-rate	$ 295,240	$ 381,124
Simple variable-rate	97,417	65,288
Step-up	14,886	35,045
Step-down	2,106	2,006
Fixed-rate that converts to variable-rate	675	617
Range bonds	190	222
Variable-rate that converts to fixed-rate	—	25
Other	67	194
Total par value	$ 410,581	$ 484,521

Consolidated Bonds Denominated in Foreign Currencies. Consolidated bonds issued can be denominated in foreign currencies. Concurrent with these issuances, the FHLBanks exchange the interest and principal payment obligations related to the issues for equivalent amounts denominated in U.S. dollars. There were no consolidated bonds denominated in foreign currencies outstanding at December 31, 2015 and 2014.

Concessions on Consolidated Obligations. Unamortized concessions included in other assets were $86 million and $93 million at December 31, 2015 and 2014. The amortization of these concessions is included in consolidated obligation interest expense and totaled $79 million, $56 million, and $53 million during the years ended December 31, 2015, 2014, and 2013.

Note 15 - Affordable Housing Program (AHP)

The FHLBank Act requires each FHLBank to establish an AHP. Each FHLBank provides subsidies in the form of direct grants and below-market interest rate advances to members who use the funds to assist in the purchase, construction, or rehabilitation of housing for very low-, low-, and moderate-income households. Annually, the FHLBanks must set aside for the AHP the greater of the aggregate of $100 million or 10% of each individual FHLBank's income subject to assessment. 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. Each FHLBank accrues this expense monthly based on its net earnings. An FHLBank reduces its AHP liability as members use subsidies.

If an FHLBank experienced a net loss during a quarter, but still had net earnings for the year, the FHLBank's obligation to the AHP would be calculated based on the FHLBank's year-to-date net earnings. If the FHLBank had net earnings in subsequent quarters, it would be required to contribute additional amounts to meet its calculated annual obligation. If the FHLBank experienced a net loss for a full year, the FHLBank would have no obligation to the AHP for the year, because each FHLBank's required annual AHP contribution is limited to its annual net earnings. If the aggregate 10% calculation previously discussed was less than $100 million for the FHLBanks, each FHLBank would be required to assure that the aggregate contribution of the FHLBanks equals $100 million. The proration would be made on the basis of an FHLBank's income in relation to the income of all FHLBanks for the previous year, subject to the annual earnings limitation as previously discussed. In addition to the required AHP assessment, an FHLBank's board of directors may elect to make voluntary contributions to the AHP. There was no shortfall in the years ended December 31, 2015, 2014, or 2013. If an FHLBank finds that its required contributions are contributing to the financial instability of that FHLBank, it may apply to the FHFA for a temporary suspension of its contributions. The FHLBanks did not make any such applications in the years ended December 31, 2015, 2014, or 2013.

The FHLBanks had outstanding principal of $217 million and $241 million at December 31, 2015 and 2014 related to AHP advances.

Table 15.1 - Analysis of AHP Liability
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Balance, at beginning of year	$ 794	$ 788	$ 746
Assessments	332	269	293
Subsidy usage, net(1)	(285)	(263)	(251)
Balance, at end of year	$ 841	$ 794	$ 788

(1) Amounts may not agree to the Affordable Housing Program payments, net amounts on the Combined Statement of Cash Flows for each applicable period due to rounding.

Note 16 - Subordinated Notes

As of December 31, 2015 and 2014, the FHLBank of Chicago had $944 million of subordinated notes outstanding that mature on June 13, 2016. During 2013, the FHLBank of Chicago repurchased $56 million of its outstanding subordinated notes through open market purchases. The subordinated notes are not obligations of, and are not guaranteed by, the U.S. government or any FHLBanks other than the FHLBank of Chicago. The subordinated notes are unsecured obligations and rank junior in priority of payment to the FHLBank of Chicago's senior liabilities. Senior liabilities include all of the existing and future liabilities, such as deposits, consolidated obligations for which the FHLBank of Chicago is the primary obligor and consolidated obligations of the other FHLBanks for which the FHLBank of Chicago is jointly and severally liable.

Senior liabilities do not include the FHLBank of Chicago's existing and future liabilities related to payments of junior equity claims (all such payments to, and redemptions of shares from, holders of its capital stock being referred to as junior equity claims) and payments to, or redemption of shares from, any holder of its capital stock that is barred or required to be deferred for any reason, such as noncompliance with any minimum regulatory capital requirement applicable to the FHLBank of Chicago. Also, senior liabilities do not include any liability that, by its terms, expressly ranks equal with or junior to the subordinated notes. The FHLBank of Chicago's regulatory approval to issue subordinated debt prohibits it from making any payment to, or redeeming shares from, any holder of capital stock which it is obligated to make, on or after any applicable interest payment date or the maturity date of the subordinated notes unless the FHLBank of Chicago has paid, in full, all interest and principal due in respect of the subordinated notes on a particular date. Also pursuant to the regulatory order approving the issuance of subordinated notes, in the event of the FHLBank of Chicago's liquidation or reorganization, the FHFA shall cause the FHLBank of Chicago, its receiver, conservator, or other successor, as applicable, to pay or make provision for the payment of all of its liabilities, including those evidenced by the subordinated notes, before making payment to, or redeeming any shares of, capital stock issued by the FHLBank of Chicago, including shares as to which a claim for mandatory redemption has arisen.

The subordinated notes may not be redeemed, in whole or in part, prior to maturity. These notes do not contain any provisions permitting holders to accelerate the maturity thereof on the occurrence of any default or other event. The subordinated notes were issued at par and accrue interest at a rate of 5.625% per annum. Interest is payable semi-annually in arrears on each June 13 and December 13. The FHLBank of Chicago will defer interest payments if five business days prior to any interest payment date it does not satisfy any minimum regulatory leverage ratio then applicable to it. As of December 31, 2015, the FHLBank of Chicago satisfied the minimum regulatory leverage ratios applicable to the FHLBank of Chicago, and it had not deferred any interest payments. The FHLBank of Chicago may not defer interest on the subordinated notes beyond their maturity date, which is June 13, 2016.

Note 17 - Capital

Each FHLBank is subject to three capital requirements under its capital plan and the FHFA rules and regulations. Regulatory capital does not include AOCI, but does include mandatorily redeemable capital stock.

1. *Risk-based capital.* Each FHLBank must maintain at all times permanent capital, defined as Class B stock and retained earnings, in an amount at least equal to the sum of its credit risk, market risk, and operations risk capital requirements, all of which are calculated in accordance with the rules and regulations of the FHFA.

2. *Total regulatory capital.* Each FHLBank is required to maintain at all times a total capital-to-assets ratio of at least four percent. Total regulatory capital is the sum of permanent capital, Class A stock, any general loss allowance, if consistent with GAAP and not established for specific assets, and other amounts from sources determined by the FHFA as available to absorb losses (including additional capital from merger).

3. *Leverage capital.* Each FHLBank is required to maintain at all times a leverage capital-to-assets ratio of at least five percent. Leverage capital is defined as the sum of permanent capital weighted 1.5 times and all other capital without a weighting factor.

The FHFA may require an FHLBank to maintain greater minimum capital levels than are required based on FHFA rules and regulation. At December 31, 2015, each FHLBank was in compliance with FHFA regulatory capital requirements.

Table 17.1 - Risk-Based Capital Requirements at December 31, 2015
(dollars in millions)

	Risk-Based Capital	
FHLBank	**Minimum Requirement**	**Actual**
Boston	$ 605	$ 3,507
New York	692	6,875
Pittsburgh	821	4,427
Atlanta	1,621	6,956
Cincinnati	631	5,232
Indianapolis	505	2,377
Chicago	1,027	4,688
Des Moines	951	5,618
Dallas	494	2,311
Topeka	332	1,681
San Francisco	2,684	5,369

Table 17.2 - Regulatory Capital Requirements at December 31, 2015
(dollars in millions)

	Regulatory Capital Ratio		Regulatory Capital	
FHLBank	Minimum Requirement	Actual	Minimum Requirement	Actual
Boston	4.0%	6.0%	$ 2,324	$ 3,507
New York	4.0%	5.6%	4,930	6,875
Pittsburgh	4.0%	4.6%	3,853	4,427
Atlanta	4.0%	4.9%	5,690	6,956
Cincinnati	4.0%	4.4%	4,752	5,232
Indianapolis	4.0%	4.7%	2,025	2,377
Chicago	4.0%	6.6%	2,827	4,688
Des Moines	4.0%	4.2%	5,495	5,812
Dallas	4.0%	5.5%	1,683	2,311
Topeka	4.0%	4.2%	1,777	1,863
San Francisco	4.0%	6.3%	3,428	5,369

Table 17.3 - Leverage Capital Requirements at December 31, 2015
(dollars in millions)

	Leverage Capital Ratio		Leverage Capital	
FHLBank	Minimum Requirement	Actual	Minimum Requirement	Actual
Boston	5.0%	9.1%	$ 2,905	$ 5,261
New York	5.0%	8.4%	6,162	10,312
Pittsburgh	5.0%	6.9%	4,817	6,640
Atlanta	5.0%	7.3%	7,113	10,433
Cincinnati	5.0%	6.6%	5,940	7,848
Indianapolis	5.0%	7.0%	2,531	3,565
Chicago	5.0%	10.0%	3,534	7,032
Des Moines	5.0%	6.3%	6,869	8,621
Dallas	5.0%	8.2%	2,104	3,467
Topeka	5.0%	6.1%	2,222	2,704
San Francisco	5.0%	9.4%	4,285	8,054

Each FHLBank is a cooperative whose member financial institutions and former members own all of the FHLBank's capital stock. Shares of capital stock cannot be purchased or sold except between an FHLBank and its members at its $100 per share par value, as mandated by each FHLBank's capital plan.

The Gramm-Leach-Bliley Act amendments made FHLBank membership voluntary for all members. Members can redeem Class A stock by giving six months written notice, and members can redeem Class B stock by giving five years written notice, subject to certain restrictions. Any member that withdraws from membership may not be readmitted to membership in any FHLBank until five years from the divestiture date for all capital stock that is held as a condition of membership, as that requirement is set out in an FHLBank's capital plan, unless the institution has canceled its notice of withdrawal prior to that date. This restriction does not apply if the member is transferring its membership from one FHLBank to another on an uninterrupted basis.

In accordance with the FHLBank Act, each class of FHLBank stock is considered putable by the member and an FHLBank may repurchase, at its sole discretion, any member's stock investments that exceed the required minimum amount. However, there are significant statutory and regulatory restrictions on the obligation to redeem, or right to repurchase, the outstanding stock. As a result, whether or not a member may have its capital stock in an FHLBank repurchased (at an FHLBank's discretion at any time before the end of the redemption period) or redeemed (at a member's request, completed at the end of a redemption period) will depend in part on whether the FHLBank is in compliance with those restrictions.

An FHLBank's board of directors may declare and pay dividends in either cash or capital stock, assuming the FHLBank is in compliance with FHFA rules.

FHLBanks of Des Moines and Seattle Merger

As part of the merger, on the effective date of the merger, each share of FHLBank of Seattle Class A stock outstanding was converted into one share of FHLBank of Des Moines Class A stock and each share of FHLBank of Seattle Class B stock outstanding was converted into one share of FHLBank of Des Moines Class B stock. Immediately following the merger, all shares of FHLBank of Des Moines Class A stock and excess shares of Class B stock were repurchased and FHLBank of Des Moines Class B stock was issued as needed to meet the FHLBank of Des Moines' activity and membership stock requirements in accordance with the combined FHLBank's capital plan. No shares of FHLBank of Seattle capital stock remain outstanding. The merger did not have an impact on the total capital stock held by FHLBank of Des Moines stockholders.

The FHLBank of Des Moines assumed the FHLBank of Seattle's mandatorily redeemable capital stock. The FHLBank of Des Moines redeemed all shares of the assumed mandatorily redeemable capital stock, with the exception of shares required to meet members' activity and membership stock requirements, and shares subject to the mandatory five-year waiting period upon written notice of a member's intent to withdraw from membership in accordance with the combined FHLBank's capital plan.

The FHLBank of Des Moines recognized net assets acquired by recording the par value of capital stock issued in the transaction as capital stock, with the remaining portion of net assets acquired recorded as additional capital from merger. As of the merger date, additional capital from merger primarily represented the amount of the FHLBank of Seattle's closing retained earnings balance, adjusted for fair value and other purchase accounting adjustments, and identified intangible assets. The FHLBank of Des Moines treats this additional capital from merger as a component of total capital for regulatory capital purposes. Dividends to the FHLBank of Des Moines' members have been paid from this account since the merger date. The FHLBank of Des Moines intends to pay future dividends to members, when and if declared, from this account until the additional capital from merger balance is depleted. Following the merger, the FHLBank of Des Moines began distributing dividends from additional capital from merger in the amount of $52 million, resulting in an ending additional capital from merger balance of $194 million.

See *Note 3 - FHLBanks of Des Moines and Seattle Merger* for additional information.

Restricted Retained Earnings

The Joint Capital Enhancement Agreement, as amended (Capital Agreement), is intended to enhance the capital position of each FHLBank. The Capital Agreement provides that each FHLBank will allocate 20% of its net income each quarter to a separate restricted retained earnings account until the balance of that account equals at least one percent of that FHLBank's average balance of outstanding consolidated obligations for the previous quarter. These restricted retained earnings are not available to pay dividends.

The FHLBank of San Francisco's Excess Stock Repurchase, Retained Earnings, and Dividend Framework establishes amounts to be retained in restricted retained earnings, which are not made available for dividends in the current dividend period. These amounts are not related to the Capital Agreement; however, they are also classified as restricted retained earnings on the Combined Statement of Condition. The FHLBank of San Francisco retains in restricted retained earnings any cumulative net gains in earnings (net of applicable assessments) resulting from gains or losses on derivatives and associated hedged items and financial instruments carried at fair value (valuation adjustments). In addition to any cumulative net gains resulting from valuation adjustments, the FHLBank of San Francisco holds an additional amount in restricted retained earnings intended to protect paid-in capital from the effects of an extremely adverse credit event, an extremely adverse operations risk event, a cumulative net loss related to the FHLBank of San Francisco's derivatives and associated hedged items and financial instruments carried at fair value, an extremely adverse change in the market value of the FHLBank of San Francisco's capital, a significant amount of additional credit-related OTTI on private-label residential MBS, or some combination of these effects, especially in periods of extremely low net income resulting from an adverse interest-rate environment, and to maintain capital compliance.

Table 17.4 presents the components of retained earnings, including the restricted amounts related to the Capital Agreement and the restricted amounts related to the FHLBank of San Francisco's Excess Stock Repurchase, Retained Earnings, and Dividend Framework.

Table 17.4 - Retained Earnings
(dollars in millions)

	Unrestricted Retained Earnings	Capital Agreement Restricted Retained Earnings	Other Restricted Retained Earnings(1)	Total Restricted Retained Earnings	Total Retained Earnings
Balance, December 31, 2012	$ 7,926	$ 716	$ 1,873	$ 2,589	$ 10,515
Net income	1,997	500	15	515	2,512
Dividends on capital stock					
Cash	(806)	—	—	—	(806)
Stock	(37)	—	—	—	(37)
Balance, December 31, 2013	9,080	1,216	1,888	3,104	12,184
Net income	1,841	457	(53)	404	2,245
Dividends on capital stock					
Cash	(1,134)	—	—	—	(1,134)
Stock	(51)	—	—	—	(51)
Balance, December 31, 2014	9,736	1,673	1,835	3,508	13,244
Net income	2,299	582	(25)	557	2,856
Transfers to unrestricted/(from) restricted retained earnings	150	—	(150)	(150)	—
Merger activity(2)	(250)	(63)	—	(63)	(313)
Dividends on capital stock					
Cash	(1,389)	—	—	—	(1,389)
Stock	(73)	—	—	—	(73)
Balance, December 31, 2015	$ 10,473	$ 2,192	$ 1,660	$ 3,852	$ 14,325

(1) Represents retained earnings restricted by the FHLBank of San Francisco's Excess Stock Repurchase, Retained Earnings, and Dividend Framework related to valuation adjustments and the retained earnings buildup. On July 31, 2015, the FHLBank of San Francisco's board of directors lowered the requirement for the retained earnings build up from $1.8 billion to $1.65 billion and transferred $150 million to unrestricted retained earnings.
(2) Represents the elimination of the FHLBank of Seattle's closing retained earnings balance in connection with the merger.

Mandatorily Redeemable Capital Stock

An FHLBank generally reclassifies capital stock subject to redemption from capital to the mandatorily redeemable capital stock liability upon expiration of a grace period, if applicable, after a member exercises a written redemption right, or gives notice of intent to withdraw from membership, or attains non-member status by merger or acquisition, relocation, charter termination, or involuntary termination from membership. Shares of capital stock meeting these definitions are reclassified to mandatorily redeemable capital stock at fair value. Dividends related to capital stock classified as mandatorily redeemable capital stock are accrued at the expected dividend rate and reported as interest expense on the Combined Statement of Income. For the years ended December 31, 2015, 2014, and 2013, dividends on mandatorily redeemable capital stock in the amount of $75 million, $138 million, and $178 million were recorded as interest expense.

A member may cancel or revoke its written notice of redemption or its notice of withdrawal from membership prior to the end of the applicable redemption period. Each FHLBank's capital plan provides the terms for cancellation fees that may be incurred by the member upon cancellation.

Table 17.5 presents capital stock subject to mandatory redemption. Payment is contingent on each FHLBank's waiting period and the FHLBank's ability to meet its minimum regulatory capital requirements. These amounts have been classified as a liability on the Combined Statement of Condition. The number of stockholders holding mandatorily redeemable capital stock was 127, 208, and 223 at December 31, 2015, 2014, and 2013.

Table 17.5 - Mandatorily Redeemable Capital Stock Rollforward
(dollars in millions)

	Year Ended December 31,		
	2015	2014	2013
Balance, beginning of year	$ 2,631	$ 4,998	$ 6,929
Capital stock subject to mandatory redemption reclassified from capital	1,131	611	2,102
Capital stock previously subject to mandatory redemption reclassified to capital	(93)	(6)	(1)
Redemption/repurchase of mandatorily redeemable capital stock	(2,925) [(a)]	(2,973)	(4,031)
Accrued stock dividend classified as mandatorily redeemable capital stock	1	1	(1)
Balance, end of year	$ 745	$ 2,631	$ 4,998

(a) Consists primarily of mandatorily redeemable capital stock redeemed in connection with the merger of the FHLBanks of Des Moines and Seattle as well as additional repurchases/redemptions by certain other FHLBanks.

Table 17.6 presents the amount of mandatorily redeemable capital stock at December 31, 2015, by contractual year of redemption. The year of redemption in the table is the end of the appropriate redemption period applicable to each FHLBank's capital plan. An FHLBank is not required to redeem membership stock until either five years or six months, depending on the type of capital stock issuable under its capital plan, after the membership is terminated or the FHLBank receives notice of withdrawal. However, if membership is terminated due to merger or consolidation, the FHLBank may recalculate the former member's stock requirement following that termination and the stock may be deemed excess stock subject to repurchase at the FHLBank's discretion. An FHLBank is not required to redeem activity-based stock until the later of the expiration of the notice of redemption or until the activity to which the capital stock relates no longer remains outstanding. If activity-based stock becomes excess stock as a result of an activity no longer remaining outstanding, an FHLBank may repurchase those shares, at its sole discretion, subject to the statutory and regulatory restrictions on excess capital stock redemption.

Table 17.6 - Mandatorily Redeemable Capital Stock by Contractual Year of Redemption
(dollars in millions)

	December 31, 2015
Year 1	$ 106
Year 2	8
Year 3	79
Year 4	47
Year 5	403
Past contractual redemption date due to remaining activity(1)	102
Total	$ 745

(1) Represents mandatorily redeemable capital stock that is past the end of the contractual redemption period because there is activity outstanding to which the mandatorily redeemable capital stock relates.

Excess Capital Stock

Excess capital stock is defined as the amount of stock held by a member (or former member) in excess of that institution's minimum stock ownership requirement. FHFA rules limit the ability of an FHLBank to create member excess capital stock under certain circumstances. An FHLBank may not pay dividends in the form of capital stock or issue new excess capital stock to members if that FHLBank's excess capital stock exceeds one percent of its total assets or if the issuance of excess capital stock would cause that FHLBank's excess capital stock to exceed one percent of its total assets. At December 31, 2015, no FHLBank had excess capital stock outstanding totaling more than one percent of its total assets.

Capital Classification Determination

The FHFA has implemented the prompt corrective action provisions of the Housing Act. The FHFA rule defined four capital classifications for the FHLBanks: adequately capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized, and the FHFA issued a regulation implementing the prompt corrective action provisions that apply to FHLBanks that are not deemed to be adequately capitalized. The FHFA determines each FHLBank's capital classification on at least a quarterly basis. If an FHLBank is determined to be other than adequately capitalized, that FHLBank becomes subject to additional supervisory authority by the FHFA. Before implementing a reclassification, the Director of the FHFA is required to provide that FHLBank with written notice of the proposed action and an opportunity to submit a response. Each FHLBank is classified by the FHFA as adequately capitalized as of the date of the FHFA's most recent notification to each FHLBank.

Note 18 - Accumulated Other Comprehensive Income (Loss)

Table 18.1 presents a summary of changes in accumulated other comprehensive income (loss) for the years ended December 31, 2015, 2014, and 2013.

Table 18.1 - Accumulated Other Comprehensive Income (Loss)
(dollars in millions)

	Net Unrealized Gains (Losses) on AFS Securities (Note 6)	Net Unrealized Gains (Losses) on HTM Securities Transferred from AFS Securities	Net Non-Credit Portion of OTTI Losses on AFS Securities (Notes 6 and 8)	Net Non-Credit Portion of OTTI Losses on HTM Securities (Notes 7 and 8)	Net Unrealized Gains (Losses) Relating to Hedging Activities (Note 12)	Pension and Postretirement Benefits (Note 19)	Total Accumulated Other Comprehensive Income (Loss)
Balance, December 31, 2012	$ 1,814	$ (3)	$ (1,011)	$ (945)	$ (1,281)	$ (84)	$ (1,510)
Other comprehensive income before reclassifications							
Unrealized gains (losses)	(806)	—	298	—	540	—	32
Non-credit OTTI losses	—	—	—	(5)	—	—	(5)
Non-credit OTTI losses transferred	—	—	(5)	5	—	—	—
Change in fair value of other-than-temporarily impaired securities	—	—	810	—	—	—	810
Accretion of non-credit loss	—	—	—	153	—	—	153
Reclassifications from accumulated other comprehensive income (loss) to net income							
Net gains (losses) on securities	(3)	2	(18)	—	—	—	(19)
Non-credit OTTI to credit OTTI	—	—	1	3	—	—	4
Amortization on hedging activities(1)	—	—	—	—	(7)	—	(7)
Amortization - pension and postretirement	—	—	—	—	—	31	31
Net current period other comprehensive income (loss)	(809)	2	1,086	156	533	31	999
Balance, December 31, 2013	1,005	(1)	75	(789)	(748)	(53)	(511)
Other comprehensive income before reclassifications							
Unrealized gains (losses)	199	—	103	—	(5)	—	297
Non-credit OTTI losses	—	—	(11)	(1)	—	—	(12)
Change in fair value of other-than-temporarily impaired securities	—	—	174	—	—	—	174
Accretion of non-credit loss	—	—	—	133	—	—	133
Reclassifications from accumulated other comprehensive income (loss) to net income							
Net gains (losses) on securities	(1)	—	—	—	—	—	(1)
Non-credit OTTI to credit OTTI	—	—	8	2	—	—	10
Amortization on hedging activities(1)	—	—	—	—	4	—	4
Amortization - pension and postretirement	—	—	—	—	—	(40)	(40)
Net current period other comprehensive income (loss)	198	—	274	134	(1)	(40)	565

	Net Unrealized Gains (Losses) on AFS Securities (Note 6)	Net Unrealized Gains (Losses) on HTM Securities Transferred from AFS Securities	Net Non-Credit Portion of OTTI Losses on AFS Securities (Notes 6 and 8)	Net Non-Credit Portion of OTTI Losses on HTM Securities (Notes 7 and 8)	Net Unrealized Gains (Losses) Relating to Hedging Activities (Note 12)	Pension and Postretirement Benefits (Note 19)	Total Accumulated Other Comprehensive Income (Loss)
Balance, December 31, 2014	1,203	(1)	349	(655)	(749)	(93)	54
Other comprehensive income before reclassifications							
Unrealized gains (losses)	(778)	—	(169)	—	104	—	(843)
Non-credit OTTI losses	—	—	(18)	(4)	—	—	(22)
Non-credit OTTI losses transferred	—	—	(14)	14	—	—	—
Change in fair value of other-than-temporarily impaired securities	—	—	85	—	—	—	85
Accretion of non-credit loss	—	—	—	114	—	—	114
Reclassifications from accumulated other comprehensive income (loss) to net income							
Net gains (losses) on securities	(8)	—	(52)	—	—	—	(60)
Non-credit OTTI to credit OTTI	—	—	60	4	—	—	64
Amortization on hedging activities(1)	—	—	—	—	19	—	19
Amortization - pension and postretirement	—	—	—	—	—	6	6
Net current period other comprehensive income (loss)	(786)	—	(108)	128	123	6	(637)
Merger activity(2)	(51)	—	—	—	—	—	(51)
Balance, December 31, 2015	$ 366	$ (1)	$ 241	$ (527)	$ (626)	$ (87)	$ (634)

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(1) **Amortization on hedging activities consists of amortization to:**	December 31, 2015	2014	2013
Interest income - Advances	$ 11	$ 11	$ 12
Interest expense - Consolidated bonds	(29)	(14)	(5)
Interest expense - Consolidated discount notes	(3)	(2)	(3)
Net gains (losses) on derivatives and hedging activities	2	1	3
Total amortization on hedging activities	$ (19)	$ (4)	$ 7

(2) Represents the elimination of the FHLBank of Seattle's closing AOCI balance in connection with the merger.

Note 19 - Pension and Postretirement Benefit Plans

Qualified Defined Benefit Multiemployer Plan

All of the FHLBanks participate in the Pentegra Defined Benefit Plan for Financial Institutions (Pentegra DB Plan), except for the FHLBank of San Francisco, which provides a Cash Balance Plan to eligible employees. The Pentegra DB Plan is a tax-qualified, defined-benefit pension plan. The Pentegra DB 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 DB Plan. Under the Pentegra DB 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 DB Plan covers substantially all officers and employees of the FHLBanks that meet certain eligibility requirements, except that:

- FHLBank of Atlanta employees are eligible to participate only if hired before March 1, 2011;
- FHLBank of Indianapolis employees are eligible to participate only if hired before February 1, 2010;
- As a result of the merger with the FHLBank of Seattle, the FHLBank of Des Moines has two Pentegra DB Plans. Employees of the FHLBank of Des Moines are eligible to participate in the FHLBank of Des Moines pension plan if hired on or before December 31, 2010. Employees previously employed by the FHLBank of Seattle are eligible to participate in the former FHLBank of Seattle pension plan if they were hired before January 1, 2005;
- FHLBank of Dallas employees are eligible to participate only if hired before January 1, 2007, or hired on or after January 1, 2007, provided that the new employee had prior service with a financial services institution that participated in the Pentegra DB Plan, during which service the employee was covered by that plan. Effective July 1, 2015, coverage was extended to include all of the FHLBank of Dallas' non-highly compensated employees (as defined by the Internal Revenue Service rules) who were hired on and after January 1, 2007, but before August 1, 2010; and
- FHLBank of Topeka employees are eligible to participate only if hired before January 1, 2009.

The Pentegra DB Plan operates on a fiscal year from July 1 through June 30. The Pentegra DB 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 any FHLBank.

The Pentegra DB Plan's annual valuation process includes calculating the plan's funded status and separately calculating the funded status of each participating employer. The funded status is defined as the market value of assets divided by the funding target (100% of the present value of all benefit liabilities accrued at that date). As permitted by ERISA, the Pentegra DB Plan accepts contributions for the prior plan year up to eight and a half months after the asset valuation date. As a result, the market 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 DB Plan is for the plan year ended June 30, 2014. The contributions made by each of the FHLBanks of New York and Atlanta during 2015 were more than 5% of the total contributions to the Pentegra DB Plan for the plan year ended June 30, 2014. The contributions made by each of the FHLBanks of Pittsburgh, Atlanta, and Indianapolis during 2014 were more than 5% of the total contributions to the Pentegra DB Plan for the plan year ended June 30, 2013.

Table 19.1 - Pentegra DB Plan Net Pension Cost and Funded Status
(dollars in millions)

	2015	2014	2013
Net pension cost charged to compensation and benefit expense for the year ended December 31	$ 75	$ 47	$ 44
Pentegra DB Plan funded status as of July 1	106.9% [(a)]	111.4% [(b)]	101.3%
Range of the FHLBanks' funded status as of July 1	95.1%-126.7%	101.9%-128.6%	91.4%-113.1%

(a) The Pentegra DB Plan's funded status as of July 1, 2015, is preliminary and may increase because the plan's participants were permitted to make contributions for the plan year ended June 30, 2015 through March 15, 2016. Contributions made on or before March 15, 2016, and designated for the plan year ended June 30, 2015, will be included in the final valuation as of July 1, 2015. The final funded status as of July 1, 2015, will not be available until the Form 5500 for the plan year July 1, 2015 through June 30, 2016, is filed (this Form 5500 is due to be filed no later than April 2017).

(b) The Pentegra DB Plan's funded status as of July 1, 2014, is preliminary and may increase because the plan's participants were permitted to make contributions for the plan year ended June 30, 2014 through March 15, 2015. Contributions made on or before March 15, 2015, and designated for the plan year ended June 30, 2014, will be included in the final valuation as of July 1, 2014. The final funded status as of July 1, 2014, will not be available until the Form 5500 for the plan year July 1, 2014 through June 30, 2015, is filed (this Form 5500 is due to be filed no later than April 2016).

Defined Contribution Retirement Plans

Qualified Defined Contribution Plans. Each FHLBank participates in a defined contribution plan. The FHLBanks of Boston, New York, Pittsburgh, Cincinnati, Indianapolis, Chicago, Dallas, Topeka, and the majority of employees of the FHLBank of Des Moines participate in the Pentegra Defined Contribution Plan for Financial Institutions, a tax-qualified, defined-contribution plan. The FHLBanks of Atlanta, San Francisco, and certain employees at the FHLBank of Des Moines who were previously employed at the FHLBank of Seattle prior to the merger, have similar defined contribution plans. Under these plans, each

FHLBank contributes a percentage of the participants' compensation by making a matching contribution equal to a percentage of the employee's voluntary contributions, subject to certain limitations.

Nonqualified Supplemental Defined Contribution Retirement Plans. Certain FHLBanks maintain at least one or more nonqualified, unfunded supplemental defined contribution plans. These plans restore all or a portion of defined contributions to those employees who have had their qualified defined contribution benefits limited by IRS regulations. The unfunded liability associated with these nonqualified supplemental defined contribution retirement plans was $67 million and $64 million at December 31, 2015 and 2014. However, certain of these FHLBanks have established a grantor/rabbi trust to meet future benefit obligations and current payments to the beneficiaries.

Costs expensed for all qualified and nonqualified defined contribution plans were $18 million for the year ended December 31, 2015, $19 million for the year ended December 31, 2014, and $18 million for the year ended December 31, 2013.

Defined Benefit Retirement Plans

Nonqualified Supplemental Defined Benefit Retirement Plans. Certain FHLBanks maintain one or more nonqualified, unfunded supplemental defined benefit plans. These plans ensure that participants receive the full amount of benefits to which they would have been entitled under the qualified defined benefit plan in the absence of limits on benefit levels imposed by the IRS. Certain of these FHLBanks have established a grantor/rabbi trust to meet future benefit obligations and current payments to the beneficiaries. There are no funded plan assets that have been designated to provide supplemental retirement benefits.

FHLBank of San Francisco Cash Balance Plan. The FHLBank of San Francisco provides retirement benefits through its Cash Balance Plan, a tax-qualified defined benefit plan. The Cash Balance Plan is provided to all employees who have completed six months of FHLBank of San Francisco service. Under the plan, each eligible FHLBank of San Francisco employee accrues benefits annually equal to six percent of the employee's total annual compensation (base salary and short term incentive award), plus six percent interest on the benefits accrued to the employee through the prior year end. The Cash Balance Plan is funded through a qualified trust established by the FHLBank of San Francisco.

Table 19.2 presents the obligations and funding status of the FHLBanks' nonqualified supplemental defined benefit retirement plans and the FHLBank of San Francisco's Cash Balance Plan (collectively referred to as "Defined Benefit Retirement Plans").

Table 19.2 - Benefit Obligation, Fair Value of Plan Assets, and Funded Status
(dollars in millions)

	Year Ended December 31,	
	Defined Benefit Retirement Plans	
	2015	2014
Change in benefit obligation		
Benefit obligation at beginning of year	$ 250	$ 198
Service cost	10	9
Interest cost	9	9
Loss (gain)	(1)	43
Benefits paid	(9)	(9)
Settlements and curtailments	(3)	—
Benefit obligation at end of year	256	250
Change in plan assets		
Fair value of plan assets at beginning of year	41	38
Actual return on plan assets	(1)	2
Acquisition	2	—
Employer contributions	12	10
Benefits paid	(9)	(9)
Settlements and curtailments	(2)	—
Fair value of plan assets at end of year	43	41
Funded status	$ (213)	$ (209)

Amounts recognized in other liabilities on the Combined Statement of Condition for the FHLBanks' defined benefit retirement plans at December 31, 2015 and 2014, were $213 million and $209 million.

Table 19.3 - Amounts Recognized in OCI
(dollars in millions)

	December 31, Defined Benefit Retirement Plans 2015	December 31, Defined Benefit Retirement Plans 2014
Net actuarial loss	$ 83	$ 92
Prior service cost (benefit)	—	1
Total	$ 83	$ 93

The accumulated benefit obligation for the defined benefit retirement plans was $224 million and $217 million at December 31, 2015 and 2014.

Table 19.4 - Net Periodic Benefit Cost and Other Amounts Recognized in Other Comprehensive Income (Loss)
(dollars in millions)

	Year Ended December 31, Defined Benefit Retirement Plans 2015	2014	2013
Net Periodic Benefit Cost			
Service cost	$ 10	$ 9	$ 11
Interest cost	9	9	7
Expected return on plan assets	(3)	(3)	(3)
Amortization of net loss (gain)	11	6	9
Settlement loss	—	—	5
Net periodic benefit cost	27	21	29
Other Changes in Benefit Obligations Recognized in Other Comprehensive Income			
Net loss (gain)	—	41	(10)
Prior service cost (benefit)	1	3	(2)
Amortization of net (loss) gain	(11)	(6)	(9)
Prior service cost recognized due to curtailment/settlement loss	—	—	(5)
Total recognized in other comprehensive income	(10)	38	(26)
Total recognized in net periodic benefit cost and other comprehensive income	$ 17	$ 59	$ 3

The estimated net actuarial loss that will be amortized from AOCI into net periodic benefit cost over the next fiscal year is $9 million.

Table 19.5 presents the key assumptions used for the actuarial calculations to determine benefit obligations for the FHLBanks' defined benefit retirement plans (displayed as a range from low to high).

Table 19.5 - Benefit Obligation Key Assumptions

	Defined Benefit Retirement Plans 2015	Defined Benefit Retirement Plans 2014
Discount rate	3.8% - 4.5%	3.5% - 4.1%
Salary increases	3.0% - 6.5%	3.0% - 6.5%

Table 19.6 presents the key assumptions used for the actuarial calculations to determine net periodic benefit cost for the FHLBanks' defined benefit retirement plans (displayed as a range from low to high).

Table 19.6 - Net Periodic Benefit Cost Key Assumptions

	December 31,		
	Defined Benefit Retirement Plans		
	2015	2014	2013
Discount rate	3.5% - 4.1%	4.3% - 5.0%	3.3% - 4.8%
Salary increases	3.0% - 6.5%	3.0% - 5.5%	3.0% - 5.5%
Expected return on plan assets	8.0%	8.0%	8.0%

Estimated future benefit payments are based on each plan's census data, benefit formulas and provisions, and valuation assumptions reflecting the probability of decrement and survival. The present value of the future benefit payments is determined by using duration-based interest rate yields from a variety of highly rated relevant corporate bond indices as of December 31, 2015, and solving for the single discount rate that produces the same present value.

The nonqualified supplemental retirement plans are not funded; therefore, no contributions will be made in 2016 other than for the payment of benefits. Table 19.7 presents the estimated future payments of benefits.

Table 19.7 - Estimated Future Benefit Payments
(dollars in millions)

Years	Payments
2016	$ 19
2017	14
2018	17
2019	15
2020	17
2021-2025	102

Postretirement Benefit Plans

Certain FHLBanks offer postretirement benefit plans that may include health care and/or life insurance benefits for eligible retirees. There are no funded plan assets that have been designated to provide postretirement benefits. The financial amounts related to postretirement benefit plans are immaterial to the FHLBanks' combined financial condition, combined results of operations, and combined cash flows.

FHLBank of San Francisco's Cash Balance Plan Assets and Expected Contribution

Table 19.8 presents the fair values of the FHLBank of San Francisco's Cash Balance Plan's assets as of December 31, 2015 and 2014, by asset category. (See *Note 20 - Fair Value* for further information regarding the three levels of fair value measurement.)

Table 19.8 - FHLBank of San Francisco's Cash Balance Plan's Fair Value of Plan Assets by Asset Category
(dollars in millions)

	December 31, 2015				December 31, 2014			
	Fair Value Measurement Using				Fair Value Measurement Using			
Asset Category	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 2	$ —	$ —	$ 2	$ 1	$ —	$ —	$ 1
Equity mutual funds	24	—	—	24	25	—	—	25
Fixed-income mutual funds	14	—	—	14	13	—	—	13
Real estate mutual funds	2	—	—	2	1	—	—	1
Other mutual funds	1	—	—	1	1	—	—	1
Total	$ 43	$ —	$ —	$ 43	$ 41	$ —	$ —	$ 41

The Cash Balance Plan is administered by the FHLBank of San Francisco's Retirement Committee, which establishes the plan's Statement of Investment Policy and Objectives. The FHLBank of San Francisco's Retirement Committee has adopted a strategic asset allocation based on a stable distribution of assets among major asset classes. These asset classes include domestic large-, mid-, and small-capitalization equity investments; international equity investments; real return investments; and fixed-income investments. The FHLBank of San Francisco's Retirement Committee has set the Cash Balance Plan's target allocation percentages for a mix of 60% equity, 10% real return, and 30% fixed income. The FHLBank of San Francisco's Retirement Committee reviews the performance of the Cash Balance Plan on a regular basis.

Table 19.9 - FHLBank of San Francisco's Cash Balance Plan's Weighted-Average Asset Allocation by Asset Category

	December 31,	
Asset Category	**2015**	**2014**
Cash and cash equivalents	6%	4%
Equity mutual funds	56%	61%
Fixed-income mutual funds	32%	31%
Real estate mutual funds	4%	2%
Other mutual funds	2%	2%
Total	100%	100%

The FHLBank of San Francisco contributed $4 million in 2015, and expects to contribute $2 million in 2016, to its Cash Balance Plan.

Note 20 - Fair Value

The fair value amounts recorded on the Combined Statement of Condition and presented in the note disclosures for the periods presented have been determined by the FHLBanks using available market and other pertinent information and reflect each FHLBank's best judgment of appropriate valuation methods. Although each FHLBank uses its best judgment in estimating the fair value of its financial instruments, there are inherent limitations in any valuation technique. Therefore, the fair values may not be indicative of the amounts that would have been realized in market transactions at December 31, 2015 and 2014.

Fair Value Hierarchy

The FHLBanks record trading securities, available-for-sale securities, derivative assets, derivative liabilities, certain advances, certain consolidated obligations, and certain other assets at fair value on a recurring basis, and on occasion certain private-label MBS, certain mortgage loans held for portfolio, and certain other assets on a non-recurring basis. GAAP establishes a fair value hierarchy and requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The inputs are evaluated and an overall level for the fair value measurement is determined. This overall level is an indication of market observability of the fair value measurement for the asset or liability. An entity must disclose the level within the fair value hierarchy in which the measurements are classified.

The fair value hierarchy prioritizes the inputs used to measure fair value into three broad levels:

- Level 1 Inputs. Quoted prices (unadjusted) for identical assets or liabilities in an active market that the reporting entity can access on the measurement date.

- Level 2 Inputs. Inputs other than quoted prices within Level 1, that are observable inputs for the asset or liability, either directly or indirectly. If the asset or liability has a specified or contractual term, a Level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include the following: (1) quoted prices for similar assets or liabilities in active markets; (2) quoted prices for identical or similar assets or liabilities in markets that are not active; (3) inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates and yield curves that are observable at commonly quoted intervals, and implied volatilities); and (4) inputs that are derived principally from or corroborated by observable market data by correlation or other means.

- Level 3 Inputs. Unobservable inputs for the asset or liability.

Each FHLBank reviews its fair value hierarchy classifications on a quarterly basis. Changes in the observability of the valuation inputs may result in a reclassification of certain assets or liabilities. These reclassifications are reported as transfers in/out at fair value at the beginning of the quarter in which the changes occur.

The FHLBank of Indianapolis classified six private-label residential MBS it sold on April 4, 2013, within the fair value hierarchy as Level 2, as of March 31, 2013, because the estimated fair values were derived from and corroborated by the sales prices in actual market transactions. The total fair value of these six private-label residential MBS that the FHLBank of Indianapolis transferred from Level 3 to Level 2 was $124 million at January 1, 2013, the beginning of the quarter in which the transfer occurred. The FHLBanks had no other transfers of assets or liabilities recorded at fair value on a recurring basis during the years ended December 31, 2015, 2014, or 2013.

Table 20.1 presents the carrying value, fair value, and fair value hierarchy of financial assets and liabilities of the FHLBanks at December 31, 2015 and 2014. These values do not represent an estimate of the overall market value of the FHLBanks as going concerns, which would take into account future business opportunities and the net profitability of assets and liabilities.

Table 20.1 - Fair Value Summary
(dollars in millions)

	December 31, 2015					
		Fair Value				
Financial Instruments	Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Assets						
Cash and due from banks	$ 14,289	$ 14,289	$ 14,289	$ —	$ —	$ —
Interest-bearing deposits	1,836	1,836	650	1,186	—	—
Securities purchased under agreements to resell	47,827	47,827	—	47,827	—	—
Federal funds sold	42,380	42,380	—	42,380	—	—
Trading securities	10,760	10,760	14	10,746	—	—
Available-for-sale securities	75,916	75,916	35	67,589	8,292	—
Held-to-maturity securities	94,965	96,123	—	88,610	7,513	—
Advances(2)	634,022	633,569	—	633,569	—	—
Mortgage loans held for portfolio, net	44,585	45,960	—	45,717	243	—
Mortgage loans held for sale(3)	54	54	—	54	—	—
Accrued interest receivable	1,112	1,112	—	1,112	—	—
Derivative assets, net	755	755	—	2,205	4	(1,454)
Other assets	90	90	81	9	—	—
Liabilities						
Deposits	8,533	8,533	—	8,533	—	—
Consolidated obligations						
Discount notes(4)	494,055	494,021	—	494,021	—	—
Bonds(5)	411,927	413,127	—	413,072	55	—
Total consolidated obligations	905,982	907,148	—	907,093	55	—
Mandatorily redeemable capital stock	745	745	745	—	—	—
Accrued interest payable	986	986	—	986	—	—
Derivative liabilities, net	1,131	1,131	—	6,403	—	(5,272)
Other liabilities	48	48	48	—	—	—
Subordinated notes	944	966	—	966	—	—

	December 31, 2014					
		Fair Value				
Financial Instruments	Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Assets						
Cash and due from banks	$ 26,421	$ 26,421	$ 26,421	$ —	$ —	$ —
Interest-bearing deposits	1,569	1,569	560	1,009	—	—
Securities purchased under agreements to resell	25,419	25,419	—	25,419	—	—
Federal funds sold	52,773	52,773	—	52,773	—	—
Trading securities	9,600	9,600	14	9,586	—	—
Available-for-sale securities	75,008	75,008	20	63,940	11,048	—
Held-to-maturity securities	105,848	107,839	—	98,401	9,438	—
Advances(2)	570,726	571,332	—	571,332	—	—
Mortgage loans held for portfolio, net	43,563	45,770	—	45,474	296	—
Accrued interest receivable	1,095	1,095	—	1,095	—	—
Derivative assets, net	500	500	—	2,813	13	(2,326)
Other assets	77	77	71	6	—	—
Liabilities						
Deposits	9,064	9,064	—	9,064	—	—
Consolidated obligations						
Discount notes(4)	362,303	362,300	—	362,300	—	—
Bonds(5)	486,031	488,536	—	488,474	62	—
Total consolidated obligations	848,334	850,836	—	850,774	62	—
Mandatorily redeemable capital stock	2,631	2,631	2,631	—	—	—
Accrued interest payable	1,110	1,110	—	1,110	—	—
Derivative liabilities, net	1,599	1,599	—	9,282	—	(7,683)
Other liabilities	38	38	38	—	—	—
Subordinated notes	944	1,013	—	1,013	—	—

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty.
(2) Includes $13,744 million and $20,890 million of advances recorded under fair value option at December 31, 2015 and 2014.
(3) Represents mortgage loans held for sale recorded under fair value option, included in other assets on the Combined Statement of Condition at December 31, 2015.
(4) Includes $21,478 million and $10,189 million of consolidated discount notes recorded under fair value option at December 31, 2015 and 2014.
(5) Includes $20,735 million and $34,734 million of consolidated bonds recorded under fair value option and $55 million and $62 million of consolidated bonds that are carried at fair value under a full fair value hedge strategy at December 31, 2015 and 2014.

Summary of Valuation Methodologies and Primary Inputs

Cash and due from banks. The fair values equal the carrying values.

Interest-bearing deposits. The fair values are determined based on prices obtained from a pricing service or by calculating the present value of the expected future cash flows and reducing the amount for accrued interest receivable. For certain FHLBanks' interest-bearing deposits with three months or less to maturity or repricing, the fair values approximate the carrying values.

Securities purchased under agreements to resell. The fair values are determined by calculating the present value of the future cash flows and reducing the amount for accrued interest receivable. The discount rates used in these calculations are the rates for securities with similar terms. For certain FHLBanks' securities with three months or less to maturity or repricing, the fair values approximate the carrying values.

Federal funds sold. The fair values of overnight federal funds sold approximate the carrying values. The fair values of term federal funds sold are determined by calculating the present value of the expected future cash flows and reducing the amount for accrued interest receivable. The discount rates used in these calculations are the rates for federal funds with similar terms.

Investment securities-MBS. Using a uniform framework, each FHLBank's valuation technique incorporates prices from up to four designated third-party pricing vendors, when available. The third-party pricing vendors use various proprietary models to price MBS. The inputs to those models are derived from various sources, including, but not limited to, benchmark yields, reported trades, dealer estimates, issuer spreads, benchmark securities, bids, offers, and other market-related data. Because many MBS do not trade on a daily basis, the pricing vendors use applicable, available information, 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 MBS valuations, which facilitates resolution of potentially erroneous prices identified by the FHLBanks.

Each FHLBank has conducted reviews of up to four pricing vendors to confirm and further augment its understanding of the vendors' pricing processes, methodologies, and control procedures for specific instruments.

The FHLBanks' valuation technique for estimating the fair values of MBS first requires the establishment of a median price for each security. If four prices are received, the average of the middle two prices is the median price; if three prices are received, the middle price is the median price; if two prices are received, the average of the two prices is the median price; and if one price is received, it is the median price (and also the final price), subject to validation of outliers.

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 default price. All prices that are outside the threshold (outliers) are subject to further analysis to determine if an outlier is a better estimate of fair value. These steps include, but are not limited to, comparison to prices provided by an additional third-party valuation service, prices for similar securities, and/or non-binding dealer estimates. 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 default price. Alternatively, if the analysis confirms that an outlier (or outliers) is (are) in fact not representative of fair value and the default price is the best estimate, then the default price is used as the final price. In all cases, the final price is used to determine the fair value of the security.

As of December 31, 2015 and 2014, four prices were received for a majority of the FHLBanks' MBS holdings and the final prices for those securities were computed by averaging the prices received. Based on each FHLBank's review of the pricing methods employed by the third-party pricing vendors and the relative lack of dispersion among the vendor prices (or, in those instances in which there were outliers or significant yield variances, the FHLBanks' additional analyses), each FHLBank believes its final prices result in reasonable estimates of fair value and that the fair value measurements are classified appropriately in the fair value hierarchy. Based on the lack of significant market activity for private-label residential MBS and home equity loan ABS, the recurring and non-recurring fair value measurements for those securities were classified as Level 3 within the fair value hierarchy as of December 31, 2015 and 2014.

Investment securities-Non-MBS. To determine the estimated fair values of non-MBS investment securities, each FHLBank uses either a market approach using prices from third-party pricing vendors, generally consistent with the methodologies for MBS, or an income approach based on a market-observable interest rate curve adjusted for a spread, which may be based on unobservable information. Differing spreads may be applied to distinct term points along the discount curve in determining the fair values of instruments with varying maturities. Each FHLBank believes that its methodologies result in fair values that are reasonable and similar in all material respects based on the nature of the financial instruments being measured. The market-observable interest rate curves used by the FHLBanks and the related financial instrument they measure are as follows:

- *Treasury Curve.* U.S. Treasury obligations.
- *LIBOR Swap Curve*. Commercial paper, certificates of deposit, promissory notes, and Federal Family Education Loan Program ABS.
- *U.S. Government Agency Fair Value Curve.* Government-sponsored enterprises and Tennessee Valley Authority obligations.

Advances. Each FHLBank generally determines the fair values of its advances by calculating the present value of expected future cash flows from the advances, excluding the amount of the accrued interest receivable. The discount rates used in these calculations are equivalent to the replacement advance rates for advances with similar terms. Each FHLBank calculates its replacement advance rates at a spread to its cost of funds. Each FHLBank's cost of funds approximates the consolidated obligation (CO) curve. (See *Summary of Valuation Methodologies and Primary Inputs - Consolidated obligations* within this note for a discussion of the CO curve.) To estimate the fair values of advances with optionality, market-based expectations of future interest rate volatility implied from current market prices for similar options are also used. In accordance with the FHFA's advances regulations, an advance with a maturity or repricing period greater than six months requires a prepayment fee sufficient to make an FHLBank financially indifferent to the borrower's decision to prepay the advances. Therefore, the fair values of advances do not assume prepayment risk.

The FHLBanks did not adjust their fair value measurement of advances for creditworthiness primarily because advances were fully collateralized. (See *Note 9 - Advances* and *Note 11 - Allowance for Credit Losses* for additional information.)

Mortgage loans held for portfolio. The fair values of mortgage loans are estimated based on quoted market prices for similar mortgage loans, if available, or modeled values. The modeled values generally start with prices for newly issued mortgage-backed securities issued by U.S. government-sponsored enterprises or similar new mortgage loans, adjusted for underlying assumptions or characteristics. The prices are adjusted for differences in coupon, average loan rate, seasoning, credit risk, and cash flow remittance between the FHLBank's mortgage loans and the referenced mortgage-backed securities or mortgage loans. The prices of the referenced mortgage-backed securities and mortgage loans are highly dependent upon the underlying prepayment and other assumptions. Changes in the prepayment rates often have a material effect on the fair value estimates. The fair values of certain non-performing loans are estimated based on the values of the underlying collateral or the present values of future cash flows, which may include estimates of prepayment rates and other assumptions.

Mortgage loans held for sale. The fair value of mortgage loans held for sale is based on to-be-announced (TBA) securities, which represent quoted market prices for new mortgage-backed securities issued by U.S. government-sponsored enterprises.

Impaired mortgage loans held for portfolio and real estate owned. The estimated fair values of impaired mortgage loans held for portfolio and real estate owned on a non-recurring basis are generally based on broker prices, property values obtained from a third-party pricing vendor, or current actual loss severity rates that the FHLBanks have incurred on sales. All estimated fair values of impaired mortgage loans held for portfolio and real estate owned are net of any estimated selling costs.

Accrued interest receivable and payable. The fair values approximate the carrying values.

Derivative assets/liabilities. Each FHLBank bases the fair values of derivatives with similar terms on market prices, when available. However, active markets do not exist for many of the FHLBanks' derivatives. Consequently, fair values for these instruments are generally estimated using standard valuation techniques such as discounted cash flow analysis and comparisons to similar instruments. In limited instances, fair value estimates for derivatives are obtained from dealers and are corroborated by an FHLBank using a pricing model and observable market data. Each FHLBank is subject to credit risk due to the risk of nonperformance by counterparties to its derivative transactions. For uncleared derivatives, the degree of credit risk depends on the extent to which master netting arrangements are included in these contracts to mitigate the risk. In addition, each FHLBank requires collateral agreements with collateral delivery thresholds on the majority of its uncleared derivatives. The use of cleared derivatives is intended to mitigate credit risk exposure because a central counterparty is substituted for individual counterparties and collateral is posted daily, through a clearing agent, for changes in the value of cleared derivatives. Each FHLBank has evaluated the potential for the fair value of the instruments to be affected by counterparty credit risk and its own credit risk and has determined that no adjustments were significant to the overall fair value measurements.

The fair values of each FHLBank's derivative assets and liabilities include accrued interest receivable/payable and related cash collateral, including initial and variation margin, remitted to/received from counterparties. The estimated fair values of the accrued interest receivable/payable and cash collateral approximate their carrying values due to their short-term nature. Derivatives are presented on a net basis by clearing agent and/or by counterparty when it has met the netting requirements. If these netted amounts are positive, they are classified as an asset and, if negative, they are classified as a liability.

Each FHLBank's discounted cash flow analysis uses market-observable inputs. Inputs by class of derivative are as follows:

Interest-rate related:

- *Discount rate assumption*. The FHLBanks used the Overnight Index Swap (OIS) curve or the LIBOR swap curve depending on the terms of the derivative.
- *Forward interest rate assumption.* LIBOR swap curve.
- *Volatility assumption.* Market-based expectations of future interest rate volatility implied from current market prices for similar options.
- *Prepayment assumption* (if applicable).
- *TBA securities prices.* Market-based prices of TBAs are determined by coupon class and expected term until settlement.
- *TBA "drops."* TBA price "drops" are used to adjust base TBA prices and are a function of current short-term interest rates, prepayment estimates, and the supply and demand for pass-throughs in the current delivery month. TBA drops are obtained from a market-observable source.

Mortgage delivery commitments:

- *TBA securities prices.* TBA security prices are generally adjusted for differences in coupon, average loan rate, and seasoning.

Deposits. The fair values of deposits are generally equal to its carrying values because the deposits are primarily overnight instruments or due on demand. Each FHLBank determines the fair values of term deposits by calculating the present value of expected future cash flows from the deposits and reducing this amount for accrued interest payable. The discount rates used in these calculations are the cost of deposits with similar terms.

Consolidated obligations. Each FHLBank estimates the fair values of consolidated obligations based on prices received from pricing vendors, consistent with the methodology for MBS previously discussed, or by using standard valuation techniques and inputs based on the cost of raising comparable term debt.

The inputs used to determine the fair values of consolidated obligations are as follows:

- *CO Curve and LIBOR Swap Curve.* The Office of Finance constructs an internal curve, referred to as the CO curve, using the U.S. Treasury curve as a base curve that is then adjusted by adding indicative spreads obtained from market observable sources. These market indications are generally derived from pricing indications from dealers, historical pricing relationships, recent GSE trades, and secondary market activity. The LIBOR swap curve is used for certain callable consolidated obligations.

- *Volatility assumption.* To estimate the fair values of consolidated obligations with optionality the FHLBanks use market-based expectations of future interest rate volatility implied from current market prices for similar options.

- *Spread adjustment.* FHLBanks may apply an adjustment to the curve.

The FHLBanks monitor their own creditworthiness and determine if any credit risk adjustments are necessary in their fair value measurement of consolidated obligations.

Mandatorily redeemable capital stock. The fair value of capital stock subject to mandatory redemption is generally equal to its par value as indicated by contemporaneous member purchases and sales at par value. Fair value also includes an estimated dividend earned at the time of reclassification from equity to liabilities, until that amount is paid, and any subsequently declared dividend. FHLBank stock can only be acquired and redeemed at par value. FHLBank stock is not traded and no market mechanism exists for the exchange of stock outside the FHLBank System's cooperative structure.

Commitments. The fair value of the FHLBanks' commitments to extend credit for advances, letters of credit, and standby bond-purchase agreements was immaterial at December 31, 2015 and 2014.

Subordinated notes. The FHLBank of Chicago estimates the fair values of its subordinated notes based on the cost of raising comparable term debt.

Subjectivity of estimates. Estimates of the fair value of financial assets and liabilities using the methodologies described above are highly subjective and require judgments regarding significant matters such as the amount and timing of future cash flows, prepayment speed assumptions, expected interest rate volatility, possible distributions of future interest rates used to value options, and the selection of discount rates that appropriately reflect market and credit risks. The use of different assumptions could have a material effect on the fair value estimates.

Fair Value Measurements

Table 20.2 presents the fair value of assets and liabilities that are recorded on a recurring or non-recurring basis at December 31, 2015 and 2014, by level within the fair value hierarchy. The FHLBanks measure certain held-to-maturity securities and mortgage loans at fair value on a non-recurring basis due to the recognition of a credit loss. Real estate owned is measured using fair value when the asset's fair value less costs to sell is lower than its carrying amount.

Table 20.2 - Fair Value Measurements
(dollars in millions)

	December 31, 2015				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Recurring fair value measurements - Assets					
Trading securities					
U.S. Treasury obligations	$ 1,310	$ —	$ 1,310	$ —	$ —
Other U.S. obligations	237	—	237	—	—
GSE and Tennessee Valley Authority obligations	7,216	—	7,216	—	—
State or local housing agency obligations	1	—	1	—	—
Other non-MBS	290	14	276	—	—
Other U.S. obligations single-family MBS	24	—	24	—	—
GSE single-family MBS	159	—	159	—	—
GSE multifamily MBS	1,523	—	1,523	—	—
Total trading securities	10,760	14	10,746	—	—
Available-for-sale securities					
Certificates of deposit	700	—	700	—	—
Other U.S. obligations	4,829	—	4,829	—	—
GSE and Tennessee Valley Authority obligations	14,863	—	14,863	—	—
State or local housing agency obligations	1,199	—	1,199	—	—
Federal Family Education Loan Program ABS	5,299	—	5,299	—	—
Other non-MBS	1,124	35	1,089	—	—
Other U.S. obligations single-family MBS	4,587	—	4,587	—	—
Other U.S. obligations multifamily MBS	744	—	744	—	—
GSE single-family MBS	9,586	—	9,586	—	—
GSE multifamily MBS	24,693	—	24,693	—	—
Private-label residential MBS	8,282	—	—	8,282	—
Home equity loan ABS	10	—	—	10	—
Total available-for-sale securities	75,916	35	67,589	8,292	—
Advances(2)	13,744	—	13,744	—	—
Mortgage loans held for sale(3)	54	—	54	—	—
Derivative assets, net					
Interest-rate related	753	—	2,203	4	(1,454)
Mortgage delivery commitments	2	—	2	—	—
Total derivative assets, net	755	—	2,205	4	(1,454)
Other assets	90	81	9	—	—
Total recurring assets at fair value	$ 101,319	$ 130	$ 94,347	$ 8,296	$ (1,454)

	December 31, 2015				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Recurring fair value measurements - Liabilities					
Consolidated Obligations					
Discount notes(4)	$ 21,478	$ —	$ 21,478	$ —	$ —
Bonds(5)	20,790	—	20,735	55	—
Total consolidated obligations	42,268	—	42,213	55	—
Derivative liabilities, net					
Interest-rate related	1,128	—	6,400	—	(5,272)
Mortgage delivery commitments	3	—	3	—	—
Total derivative liabilities, net	1,131	—	6,403	—	(5,272)
Total recurring liabilities at fair value	$ 43,399	$ —	$ 48,616	$ 55	$ (5,272)
Non-recurring fair value measurements - Assets (6)					
Held-to-maturity securities					
Private-label residential MBS	$ 36	$ —	$ —	$ 36	
Mortgage loans held for portfolio	127	—	11	116	
Real estate owned	32	—	—	32	
Total non-recurring assets at fair value	$ 195	$ —	$ 11	$ 184	

	December 31, 2014				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Recurring fair value measurements - Assets					
Trading securities					
U.S. Treasury obligations	$ 526	$ —	$ 526	$ —	$ —
Other U.S. obligations	256	—	256	—	—
GSE and Tennessee Valley Authority obligations	7,601	—	7,601	—	—
State or local housing agency obligations	1	—	1	—	—
Other non-MBS	294	14	280	—	—
Other U.S. obligations single-family MBS	28	—	28	—	—
GSE single-family MBS	201	—	201	—	—
GSE multifamily MBS	693	—	693	—	—
Total trading securities	9,600	14	9,586	—	—
Available-for-sale securities					
Certificates of deposit	1,350	—	1,350	—	—
Other U.S. obligations	4,995	—	4,995	—	—
GSE and Tennessee Valley Authority obligations	15,093	—	15,093	—	—
State or local housing agency obligations	139	—	139	—	—
Federal Family Education Loan Program ABS	6,221	—	6,221	—	—
Other non-MBS	1,063	20	1,043	—	—
Other U.S. obligations single-family MBS	4,889	—	4,889	—	—
Other U.S. obligations multifamily MBS	871	—	871	—	—
GSE single-family MBS	9,714	—	9,714	—	—
GSE multifamily MBS	19,625	—	19,625	—	—
Private-label residential MBS	11,036	—	—	11,036	—
Home equity loan ABS	12	—	—	12	—
Total available-for-sale securities	75,008	20	63,940	11,048	—

	December 31, 2014				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Advances(2)	20,890	—	20,890	—	—
Derivative assets, net					
Interest-rate related	491	—	2,804	13	(2,326)
Mortgage delivery commitments	9	—	9	—	—
Total derivative assets, net	500	—	2,813	13	(2,326)
Other assets	77	71	6	—	—
Total recurring assets at fair value	$ 106,075	$ 105	$ 97,235	$ 11,061	$ (2,326)
Recurring fair value measurements - Liabilities					
Consolidated Obligations					
Discount notes(4)	$ 10,189	$ —	$ 10,189	$ —	$ —
Bonds(5)	34,796	—	34,734	62	—
Total consolidated obligations	44,985	—	44,923	62	—
Derivative liabilities, net					
Interest-rate related	1,596	—	9,279	—	(7,683)
Mortgage delivery commitments	3	—	3	—	—
Total derivative liabilities, net	1,599	—	9,282	—	(7,683)
Total recurring liabilities at fair value	$ 46,584	$ —	$ 54,205	$ 62	$ (7,683)
Non-recurring fair value measurements - Assets					
Held-to-maturity securities					
Private-label residential MBS	$ 35	$ —	$ —	$ 35	
Mortgage loans held for portfolio	166	—	—	166	
Real estate owned	22	—	—	22	
Total non-recurring assets at fair value	$ 223	$ —	$ —	$ 223	

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty.
(2) Represents advances recorded under fair value option at December 31, 2015 and 2014.
(3) Represents mortgage loans held for sale recorded under fair value option, included in other assets on the Combined Statement of Condition at December 31, 2015.
(4) Represents consolidated discount notes recorded under fair value option at December 31, 2015 and 2014.
(5) Represents $20,735 million and $34,734 million of consolidated bonds recorded under fair value option and $55 million and $62 million of consolidated bonds that are carried at fair value under a full fair value hedge strategy at December 31, 2015 and 2014.
(6) The fair value information presented is as of the date the fair value adjustment was recorded during the year ended December 31, 2015.

Level 3 Disclosures for All Assets and Liabilities that are Measured at Fair Value on a Recurring Basis

Table 20.3 presents a rollforward of assets and liabilities measured at fair value on a recurring basis and classified as Level 3 during the years ended December 31, 2015, 2014, and 2013.

Table 20.3 - Rollforward of Level 3 Assets and Liabilities
(dollars in millions)

	Year Ended December 31, 2015			
	Available-for-Sale Securities		Derivative Assets(1)	
	Private-Label Residential MBS	Home Equity Loan ABS	Interest-Rate Related	Consolidated Bonds
Balance, at beginning of period	$ 11,036	$ 12	$ 13	$ (62)
Total gains (losses) included in earnings				
Net gains (losses) on sale of available-for-sale securities	52	—	—	—
Net gains (losses) on derivatives and hedging activities	—	—	(9)	7
Interest income	162	2	—	—
Net other-than-temporary impairment losses	(73)	—	—	—
Total gains (losses) included in other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	(47)	—	—	—
Net amount of impairment losses reclassified to (from) non-interest income	42	—	—	—
Net change in fair value of other-than-temporarily impaired securities	(83)	(1)	—	—
Purchases, issuances, sales, and settlements				
Sales	(1,560)	—	—	—
Settlements	(1,596)	(3)	—	—
Transfers from held-to-maturity to available-for-sale securities(2)	349	—	—	—
Balance, at end of period	$ 8,282	$ 10	$ 4	$ (55)
Total amount of gains (losses) for the period included in earnings attributable to the change in unrealized gains/losses relating to assets and liabilities held at end of period	$ 93	$ 1	$ —	$ 7

	Year Ended December 31, 2014			
	Available-for-Sale Securities		Derivative Assets(1)	
	Private-Label Residential MBS	Home Equity Loan ABS	Interest-Rate Related	Consolidated Bonds
Balance, at beginning of period	$ 12,290	$ 15	$ 19	$ (68)
Total gains (losses) included in earnings				
Net gains (losses) on derivatives and hedging activities	—	—	(6)	6
Interest income	146	1	—	—
Net other-than-temporary impairment losses	(13)	—	—	—
Total gains (losses) included in other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	2	—	—	—
Net amount of impairment losses reclassified to (from) non-interest income	(1)	—	—	—
Net change in fair value of other-than-temporarily impaired securities	274	—	—	—
Purchases, issuances, sales, and settlements				
Settlements	(1,662)	(4)	—	—
Balance, at end of period	$ 11,036	$ 12	$ 13	$ (62)
Total amount of gains (losses) for the period included in earnings attributable to the change in unrealized gains/losses relating to assets and liabilities held at end of period	$ 78	$ 1	$ —	$ 6

	Year Ended December 31, 2013			
	Available-for-Sale Securities		Derivative Assets(1)	
	Private-Label Residential MBS	Home Equity Loan ABS	Interest-Rate Related	Consolidated Bonds
Balance, at beginning of period	$ 13,695	$ 14	$ 33	$ (82)
Total gains (losses) included in earnings				
Net gains (losses) on sale of available-for-sale securities	1	—	—	—
Net gains (losses) on derivatives and hedging activities	—	—	(14)	14
Interest income	53	1	—	—
Net other-than-temporary impairment losses	(9)	—	—	—
Total gains (losses) included in other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	3	—	—	—
Net amount of impairment losses reclassified to (from) non-interest income	(1)	—	—	—
Net change in fair value of other-than-temporarily impaired securities	1,092	3	—	—
Purchases, issuances, sales, and settlements				
Sales	(42)	—	—	—
Settlements	(2,461)	(3)	—	—
Transfers from Level 3 to Level 2	(124)	—	—	—
Transfers from held-to-maturity to available-for-sale securities(2)	83	—	—	—
Balance, at end of period	$ 12,290	$ 15	$ 19	$ (68)
Total amount of gains (losses) for the period included in earnings attributable to the change in unrealized gains/losses relating to assets and liabilities held at end of period	$ 16	$ 1	$ —	$ —

(1) Balances exclude netting adjustments and cash collateral.

(2) In March 2015, the FHLBank of Seattle transferred $323 million of its private-label residential MBS from its HTM portfolio to its AFS portfolio based on its intent to sell its private-label residential MBS in connection with the merger with the FHLBank of Des Moines. The FHLBank of Seattle subsequently sold these private-label residential MBS. The remaining balances relate to certain FHLBanks that elected to transfer certain private-label residential MBS that had credit-related OTTI from their respective held-to-maturity portfolio to their respective available-for-sale portfolio during 2015 and 2013. (See *Note 8 - Other-than-Temporary Impairment Analysis* for additional information on these transfers.)

Fair Value Option

The fair value option provides an irrevocable option to elect fair value as an alternative measurement for selected financial assets, financial liabilities, unrecognized firm commitments, and written loan commitments not previously carried at fair value. It requires entities to display the fair value of those assets and liabilities for which the entity has chosen to use fair value on the face of the statement of condition. Fair value is used for both the initial and subsequent measurement of the designated assets, liabilities and commitments, with the changes in fair value recognized in net income. Interest income and interest expense on advances and consolidated obligations at fair value are recognized solely on the contractual amount of interest due or unpaid. Any transaction fees or costs are immediately recognized into non-interest income or non-interest expense.

The FHLBanks of New York, Cincinnati, Chicago, Des Moines, and San Francisco (Electing FHLBanks) have each elected the fair value option for certain financial instruments when a hedge relationship does not qualify for hedge accounting or may be at risk for not meeting hedge effectiveness requirements. These fair value elections were made primarily in an effort to mitigate the potential income statement volatility that can arise when an economic derivative is adjusted for changes in fair value, but the related hedged item is not.

Table 20.4 presents net gains (losses) related to financial assets and liabilities for which the fair value option was elected during the years ended December 31, 2015, 2014, and 2013.

Table 20.4 - Fair Value Option - Financial Assets and Liabilities
(dollars in millions)

Net Gains (Losses) on Financial Instruments Held under Fair Value Option	Year Ended December 31, 2015	2014	2013
Advances	$ (34)	$ (10)	$ (170)
Mortgage loans held for sale(1)	(2)	—	—
Consolidated discount notes	6	2	(1)
Consolidated bonds	(1)	(68)	153
Total net (gains) losses	$ (31)	$ (76)	$ (18)

(1) Included in other assets on the Combined Statement of Condition at December 31, 2015.

For instruments for which the fair value option has been elected, the related contractual interest income, contractual interest expense, and the discount amortization on fair value option discount notes are recorded as part of net interest income on the Combined Statement of Income. The remaining changes in fair value for instruments for which the fair value option has been elected are recorded as net gains (losses) on financial instruments held under fair value option on the Combined Statement of Income. The change in fair value does not include changes in instrument-specific credit risk. Each of the Electing FHLBanks determined that no adjustments to the fair values of its instruments recorded under fair value option for instrument-specific credit risk were necessary for the years ended December 31, 2015, 2014, and 2013.

Table 20.5 presents the difference between the aggregate fair value and the aggregate unpaid principal balance outstanding for advances, mortgage loans held for sale, and consolidated obligations for which the fair value option has been elected as of December 31, 2015 and 2014.

Table 20.5 - Aggregate Fair Value and Aggregate Unpaid Balance
(dollars in millions)

	December 31, 2015			December 31, 2014		
	Aggregate Fair Value	Aggregate Unpaid Principal Balance	Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance	Aggregate Fair Value	Aggregate Unpaid Principal Balance	Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance
Advances(1)	$ 13,744	$ 13,703	$ 41	$ 20,890	$ 20,793	$ 97
Mortgage loans held for sale(2)	54	53	1	—	—	—
Consolidated discount notes	21,478	21,468	10	10,189	10,187	2
Consolidated bonds	20,735	20,756	(21)	34,734	34,748	(14)

(1) At December 31, 2015 and 2014, none of the advances were 90 days or more past due or had been placed on non-accrual status.
(2) Included in other assets on the Combined Statement of Condition at December 31, 2015.

Note 21 - Commitments and Contingencies

Off-Balance Sheet Commitments

Table 21.1 - Off-Balance Sheet Commitments
(dollars in millions)

	December 31, 2015			December 31, 2014
Notional amount	Expire Within One Year	Expire After One Year	Total	Total
Standby letters of credit outstanding(1)	$ 93,274	$ 30,226	$ 123,500	$ 103,276
Unsettled consolidated discount notes, at par	11,414	—	11,414	2,309
Commitments for standby bond purchases	714	1,803	2,517	2,707
Unused lines of credit - advances	2,380	—	2,380	6,102
Commitments to fund additional advances	1,588	402	1,990	1,339
Unsettled consolidated bonds, at par(2)	808	—	808	663
Commitments to purchase mortgage loans	807	—	807	890
Other(3)	335	2	337	296

(1) Excludes unconditional commitments to issue standby letters of credit of $168 million and $179 million at December 31, 2015 and 2014.
(2) Unsettled consolidated bonds of $510 million and $636 million were hedged with associated interest-rate swaps at December 31, 2015 and 2014.
(3) Consists primarily of commitments related to MPF products and commitments to purchase investments not yet traded.

Standby Letters of Credit. A standby letter of credit is a financing arrangement between an FHLBank and its member. Standby letters of credit are executed for members for a fee. If an FHLBank is required to make payment for a beneficiary's draw, the payment amount is converted into a collateralized advance to the member. These standby letters of credit have original expiration periods of up to 20 years, currently expiring no later than 2034. The carrying value of guarantees related to standby letters of credit are recorded in other liabilities and were $179 million and $185 million at December 31, 2015 and 2014.

Each FHLBank monitors the creditworthiness of its members that have standby letters of credit. In addition, standby letters of credit are fully collateralized at the time of issuance. As a result, each FHLBank has deemed it unnecessary to record any additional liability on these commitments.

Standby Bond-Purchase Agreements. Certain FHLBanks have entered into standby bond-purchase agreements with state housing authorities within their district whereby these FHLBanks agree to provide liquidity for a fee. If required, the affected FHLBanks will purchase and hold the state housing authority's bonds until the designated marketing agent can find a suitable investor or the state housing authority repurchases the bond according to a schedule established by the standby bond-purchase agreement. Each standby bond-purchase agreement dictates the specific terms that would require the affected FHLBank to purchase the bond. The standby bond-purchase commitments entered into by these FHLBanks have original expiration periods of up to seven years, currently expiring no later than 2020, although some are renewable at the option of the affected FHLBank. At December 31, 2015 and 2014, the FHLBanks had standby bond-purchase commitments with 12 and 11 state housing authorities. During the years ended December 31, 2015 and 2014, the FHLBanks were not required to purchase any bonds under these agreements.

Pledged Collateral

Certain FHLBanks pledged securities, as collateral, related to derivatives. (See *Note 12 - Derivatives and Hedging Activities* for additional information about the FHLBanks' pledged collateral and other credit-risk-related contingent features.)

Lease Commitments

The FHLBanks charged to operating expenses net rental and related costs of approximately $25 million, $23 million, and $22 million for the years ended December 31, 2015, 2014, and 2013.

Table 21.2 - Future Minimum Lease Payments
(dollars in millions)

Year	Premises	Equipment(1)	Total
2016	$ 17	$ 2	$ 19
2017	16	2	18
2018	13	2	15
2019	12	2	14
2020	10	—	10
Thereafter	37	—	37
Total	$ 105	$ 8	$ 113

(1) Includes minimum lease payments for both operating and capital leases.

Lease agreements for FHLBank premises generally provide for increases in the basic rentals resulting from increases in property taxes and maintenance expenses. These increases are not expected to have a material effect on the FHLBanks.

Lehman Bankruptcy

On September 15, 2008, Lehman Brothers Holdings, Inc. (LBHI), the parent company of Lehman Brothers Special Financing (LBSF) and a guarantor of LBSF's obligations, announced it had filed a petition for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code. This filing precipitated the termination of the FHLBanks' derivatives transactions with LBSF. Each affected FHLBank calculated its resulting settlement amount, including in that calculation any unreturned collateral pledged in connection with those transactions.

Several FHLBanks received a derivatives alternative dispute resolution (ADR) notice from the LBHI bankruptcy estate relating to the unwinding of derivatives transactions between LBSF and individual FHLBanks in 2008. Under the derivatives ADR notice, an FHLBank may agree to the demand, deny the demand, or make a counteroffer and ultimately arrive at a settlement of the demand. Some of these FHLBanks have settled their disputes with the LBHI bankruptcy estate. Each of the FHLBanks of New York and Cincinnati has disclosed information regarding its legal proceedings in connection with LBHI's insolvency in its individual 2015 SEC Form 10-K.

Other Legal Proceedings

The FHLBanks are subject to other legal proceedings arising in the normal course of business. The FHLBanks would record an accrual for a loss contingency when it is probable that a loss has been incurred and the amount can be reasonably estimated. After consultation with legal counsel, management of each FHLBank does not anticipate that the ultimate liability, if any, arising out of these matters will have a material effect on its FHLBank's financial condition, results of operations, or cash flows.

Note 22 - Subsequent Events

Subsequent events have been evaluated from January 1, 2016, through the time of publication of this Combined Financial Report. No significant subsequent events were identified, except for the declaration of dividends or repurchase or redemption of excess capital stock, which generally occur in the normal course of business unless there are regulatory or self-imposed restrictions, and the following event:

FHLBank of Des Moines

In February 2016, the FHLBank of Des Moines entered into a settlement agreement with one defendant in the FHLBank of Des Moines’ private-label MBS litigation for $137 million (after netting certain legal fees and expenses). The net settlement will be recognized in the FHLBank of Des Moines' financial statements for the quarter ended March 31, 2016.

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CONDITION
DECEMBER 31, 2015

(dollars in millions, except par value)	Combined	Combining Adjustments	Boston	New York
Assets				
Cash and due from banks	$ 14,289	$ —	$ 254	$ 327
Investments	273,684	(287)	18,019	26,167
Advances	634,022	1	36,076	93,874
Mortgage loans held for portfolio, net	44,585	(3)	3,582	2,525
Other assets	2,773	(4)	178	355
Total assets	$ 969,353	$ (293)	$ 58,109	$ 123,248
Liabilities				
Deposits	$ 8,533	$ (10)	$ 483	$ 1,350
Consolidated obligations				
Discount notes	494,055	—	28,479	46,850
Bonds	411,927	(307)	25,433	67,726
Total consolidated obligations	905,982	(307)	53,912	114,576
Mandatorily redeemable capital stock	745	1	42	19
Other liabilities	6,023	(7)	649	584
Total liabilities	921,283	(323)	55,086	116,529
Capital				
Capital stock				
Class B putable ($100 par value) issued and outstanding	34,005	(1)	2,337	5,585
Class A putable ($100 par value) issued and outstanding	180	—	—	—
Total capital stock	34,185	(1)	2,337	5,585
Additional capital from merger	194	—	—	—
Retained earnings				
Unrestricted	10,473	31	934	967
Restricted	3,852	1	195	303
Total retained earnings	14,325	32	1,129	1,270
Accumulated other comprehensive income (loss)	(634)	(1)	(443)	(136)
Total capital	48,070	30	3,023	6,719
Total liabilities and capital	$ 969,353	$ (293)	$ 58,109	$ 123,248

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 2,377	$ 1,751	$ 10	$ 4,932	$ 499	$ 982	$ 837	$ 683	$ 1,637	$ —
16,144	35,175	37,356	10,415	28,324	40,167	16,323	13,606	32,275	—
74,505	104,168	73,292	26,909	36,778	89,173	24,747	23,580	50,919	—
3,087	584	7,980	8,146	4,828	6,755	55	6,391	655	—
223	575	159	218	247	304	121	176	221	—
$ 96,336	$ 142,253	$ 118,797	$ 50,620	$ 70,676	$ 137,381	$ 42,083	$ 44,436	$ 85,707	$ —
$ 685	$ 1,084	$ 804	$ 557	$ 538	$ 1,110	$ 1,046	$ 759	$ 127	$ —
42,277	69,436	77,199	19,252	41,565	98,994	20,541	21,814	27,648	—
48,606	63,958	35,105	27,873	22,586	31,211	18,026	19,875	51,835	—
90,883	133,394	112,304	47,125	64,151	130,205	38,567	41,689	79,483	—
6	14	38	14	8	103	9	3	488	—
261	745	470	538	1,327	338	262	143	713	—
91,835	135,237	113,616	48,234	66,024	131,756	39,884	42,594	80,811	—
3,540	5,101	4,429	1,528	1,950	4,714	1,540	1,029	2,253	—
—	—	—	—	—	—	—	180	—	—
3,540	5,101	4,429	1,528	1,950	4,714	1,540	1,209	2,253	—
—	—	—	—	—	194	—	—	—	—
719	1,585	556	705	2,407	700	699	560	610	—
162	255	209	130	323	101	63	92	2,018	—
881	1,840	765	835	2,730	801	762	652	2,628	—
80	75	(13)	23	(28)	(84)	(103)	(19)	15	—
4,501	7,016	5,181	2,386	4,652	5,625	2,199	1,842	4,896	—
$ 96,336	$ 142,253	$ 118,797	$ 50,620	$ 70,676	$ 137,381	$ 42,083	$ 44,436	$ 85,707	$ —

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CONDITION
DECEMBER 31, 2014

(dollars in millions, except par value)	Combined	Combining Adjustments	Boston	New York
Assets				
Cash and due from banks	$ 26,421	$ —	$ 1,125	$ 6,459
Investments	270,217	(301)	16,879	25,201
Advances	570,726	1	33,482	98,797
Mortgage loans held for portfolio, net	43,563	(1)	3,484	2,129
Other assets	2,416	(4)	137	239
Total assets	$ 913,343	$ (305)	$ 55,107	$ 132,825
Liabilities				
Deposits	$ 9,064	$ (12)	$ 369	$ 1,999
Consolidated obligations				
Discount notes	362,303	—	25,309	50,044
Bonds	486,031	(342)	25,506	73,535
Total consolidated obligations	848,334	(342)	50,815	123,579
Mandatorily redeemable capital stock	2,631	(1)	299	19
Other liabilities	6,311	1	746	702
Total liabilities	866,340	(354)	52,229	126,299
Capital				
Capital stock				
Class B putable ($100 par value) issued and outstanding	33,464	(1)	2,413	5,580
Class A putable ($100 par value) issued and outstanding	241	—	—	—
Total capital stock	33,705	(1)	2,413	5,580
Retained earnings				
Unrestricted	9,736	51	765	863
Restricted	3,508	(3)	137	220
Total retained earnings	13,244	48	902	1,083
Accumulated other comprehensive income (loss)	54	2	(437)	(137)
Total capital	47,003	49	2,878	6,526
Total liabilities and capital	$ 913,343	$ (305)	$ 55,107	$ 132,825

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 2,451	$ 915	$ 3,110	$ 3,551	$ 342	$ 495	$ 1,508	$ 2,545	$ 3,920	$ —
16,529	36,502	26,007	10,539	32,745	23,079	17,422	9,620	31,949	24,046
63,408	99,644	70,406	20,790	32,485	65,168	18,942	18,303	38,986	10,314
3,124	746	6,984	6,820	6,057	6,562	72	6,231	708	647
165	537	133	154	212	220	102	155	244	122
$ 85,677	$ 138,344	$ 106,640	$ 41,854	$ 71,841	$ 95,524	$ 38,046	$ 36,854	$ 75,807	$ 35,129
$ 641	$ 1,110	$ 730	$ 1,084	$ 666	$ 513	$ 797	$ 596	$ 160	$ 411
37,058	37,162	41,232	12,568	31,054	57,773	19,132	14,220	21,811	14,940
43,715	92,088	59,217	25,503	34,251	32,362	16,079	20,221	47,045	16,851
80,773	129,250	100,449	38,071	65,305	90,135	35,211	34,441	68,856	31,791
1	19	63	16	9	24	5	4	719	1,454
260	974	459	307	1,336	540	113	227	379	267
81,675	131,353	101,701	39,478	67,316	91,212	36,126	35,268	70,114	33,923
3,041	5,150	4,267	1,551	1,902	3,469	1,223	766	3,278	825
—	—	—	—	—	—	—	208	—	33
3,041	5,150	4,267	1,551	1,902	3,469	1,223	974	3,278	858
727	1,551	529	672	2,152	645	650	554	294	283
111	195	160	106	254	75	51	74	2,065	63
838	1,746	689	778	2,406	720	701	628	2,359	346
123	95	(17)	47	217	123	(4)	(16)	56	2
4,002	6,991	4,939	2,376	4,525	4,312	1,920	1,586	5,693	1,206
$ 85,677	$ 138,344	$ 106,640	$ 41,854	$ 71,841	$ 95,524	$ 38,046	$ 36,854	$ 75,807	$ 35,129

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF INCOME
YEARS ENDED DECEMBER 31, 2015 and 2014

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
December 31, 2015				
Interest income				
Advances	$ 2,973	$ —	$ 247	$ 628
Investments	3,552	(19)	215	289
Mortgage loans held for portfolio	1,631	(1)	123	81
Other interest income	—	(2)	—	—
Total interest income	8,156	(22)	585	998
Interest expense				
Consolidated obligations - Discount notes	825	1	28	103
Consolidated obligations - Bonds	3,650	8	329	339
Other interest expense	133	—	2	2
Total interest expense	4,608	9	359	444
Net interest income	3,548	(31)	226	554
Provision (reversal) for credit losses	4	(2)	—	1
Net interest income after provision (reversal) for credit losses	3,544	(29)	226	553
Non-interest income (loss)	843	(2)	172	26
Non-interest expense	1,199	(8)	76	118
Affordable Housing Program assessments	332	(1)	33	46
Net income	$ 2,856	$ (22)	$ 289	$ 415
December 31, 2014				
Interest income				
Advances	$ 2,620	$ 2	$ 236	$ 478
Investments	3,705	(16)	197	286
Mortgage loans held for portfolio	1,705	(3)	126	72
Other interest income	2	—	—	—
Total interest income	8,032	(17)	559	836
Interest expense				
Consolidated obligations - Discount notes	536	2	15	71
Consolidated obligations - Bonds	3,779	27	321	319
Other interest expense	195	1	9	2
Total interest expense	4,510	30	345	392
Net interest income	3,522	(47)	214	444
Provision (reversal) for credit losses	(21)	(1)	—	—
Net interest income after provision (reversal) for credit losses	3,543	(46)	214	444
Non-interest income (loss)	17	(4)	20	7
Non-interest expense	1,046	(8)	66	101
Affordable Housing Program assessments	269	(1)	18	35
Net income	$ 2,245	$ (41)	$ 150	$ 315

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 350	$ 141	$ 369	$ 127	$ 181	$ 324	$ 134	$ 145	$ 299	$ 28
225	427	342	153	815	271	83	113	574	64
121	40	246	264	256	245	4	205	33	14
—	—	—	—	—	—	—	2	—	—
696	608	957	544	1,252	840	221	465	906	106
54	59	65	19	294	106	22	22	46	6
324	305	568	328	396	414	77	203	317	42
—	1	2	1	54	3	—	1	66	1
378	365	635	348	744	523	99	226	429	49
318	243	322	196	508	317	122	239	477	57
—	(1)	—	—	5	2	—	(2)	1	—
318	244	322	196	503	315	122	241	476	57
44	225	30	10	21	(30)	29	(80)	388	10
76	135	75	72	136	137	77	58	148	99
29	33	28	13	39	17	7	10	78	—
$ 257	$ 301	$ 249	$ 121	$ 349	$ 131	$ 67	$ 93	$ 638	$ (32)
$ 273	$ 180	$ 318	$ 107	$ 158	$ 239	$ 132	$ 124	$ 305	$ 68
224	448	353	156	877	187	67	98	658	170
129	50	237	231	327	245	5	205	42	39
—	—	—	1	—	—	—	1	—	—
626	678	908	495	1,362	671	204	428	1,005	277
24	29	28	7	269	43	10	9	20	9
319	325	559	303	518	377	73	193	326	119
—	1	4	1	54	—	—	1	120	2
343	355	591	311	841	420	83	203	466	130
283	323	317	184	521	251	121	225	539	147
(4)	(5)	—	(1)	(7)	(2)	—	(2)	—	1
287	328	317	185	528	253	121	227	539	146
76	105	23	13	29	(51)	8	(56)	(154)	1
79	132	68	68	121	67	75	53	144	80
28	30	28	13	44	14	5	12	36	7
$ 256	$ 271	$ 244	$ 117	$ 392	$ 121	$ 49	$ 106	$ 205	$ 60

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2013

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Interest income				
Advances	$ 2,697	$ (1)	$ 253	$ 445
Investments	3,847	(17)	206	275
Mortgage loans held for portfolio	1,852	2	128	68
Other interest income	2	(1)	—	—
Total interest income	8,398	(17)	587	788
Interest expense				
Consolidated obligations - Discount notes	511	(2)	7	69
Consolidated obligations - Bonds	4,248	(3)	318	295
Other interest expense	239	2	6	2
Total interest expense	4,998	(3)	331	366
Net interest income	3,400	(14)	256	422
Provision (reversal) for credit losses	(19)	(1)	(2)	—
Net interest income after provision (reversal) for credit losses	3,419	(13)	258	422
Non-interest income (loss)	329	21	43	13
Non-interest expense	943	(7)	65	96
Affordable Housing Program assessments	293	(1)	24	34
Net income	$ 2,512	$ 16	$ 212	$ 305

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 230	$ 233	$ 308	$ 146	$ 175	$ 201	$ 158	$ 128	$ 345	$ 76
225	497	323	174	937	180	80	117	691	159
142	61	269	231	399	253	6	196	50	47
—	—	—	1	—	—	—	2	—	—
597	791	900	552	1,511	634	244	443	1,086	282
18	27	37	8	288	14	7	9	17	12
382	421	530	314	716	407	89	215	432	132
1	2	5	7	57	—	—	1	155	1
401	450	572	329	1,061	421	96	225	604	145
196	341	328	223	450	213	148	218	482	137
(2)	5	(7)	(4)	(2)	(6)	—	2	(1)	(1)
198	336	335	227	452	219	148	216	483	138
48	166	20	69	(20)	(35)	20	(31)	5	10
81	127	64	68	56	62	70	53	128	80
17	37	30	25	33	12	10	13	52	7
$ 148	$ 338	$ 261	$ 203	$ 343	$ 110	$ 88	$ 119	$ 308	$ 61

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF COMPREHENSIVE INCOME
YEARS ENDED DECEMBER 31, 2015, 2014 AND 2013

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
December 31, 2015				
Net income	$ 2,856	$ (22)	$ 289	$ 415
Other comprehensive income				
Net unrealized gains/losses on available-for-sale securities	(786)	—	(64)	(7)
Net non-credit portion of other-than-temporary impairment losses on available-for-sale securities	(108)	(1)	—	—
Net non-credit portion of other-than-temporary impairment losses on held-to-maturity securities	128	—	46	8
Net unrealized gains/losses relating to hedging activities	123	1	10	(4)
Pension and postretirement benefits	6	(3)	2	4
Total other comprehensive income (loss)	(637)	(3)	(6)	1
Comprehensive income	$ 2,219	$ (25)	$ 283	$ 416
December 31, 2014				
Net income	$ 2,245	$ (41)	$ 150	$ 315
Other comprehensive income				
Net unrealized gains/losses on available-for-sale securities	198	1	28	1
Net non-credit portion of other-than-temporary impairment losses on available-for-sale securities	274	2	—	—
Net non-credit portion of other-than-temporary impairment losses on held-to-maturity securities	134	—	49	9
Net unrealized gains/losses relating to hedging activities	(1)	(1)	(29)	(56)
Pension and postretirement benefits	(40)	—	(3)	(6)
Total other comprehensive income (loss)	565	2	45	(52)
Comprehensive income	$ 2,810	$ (39)	$ 195	$ 263
December 31, 2013				
Net income	$ 2,512	$ 16	$ 212	$ 305
Other comprehensive income				
Net unrealized gains/losses on available-for-sale securities	(809)	(1)	(79)	(7)
Net unrealized gains/losses on held-to-maturity securities transferred from available-for-sale securities	2	—	—	—
Net non-credit portion of other-than-temporary impairment losses on available-for-sale securities	1,086	(1)	—	—
Net non-credit portion of other-than-temporary impairment losses on held-to-maturity securities	156	—	60	10
Net unrealized gains/losses relating to hedging activities	533	1	13	106
Pension and postretirement benefits	31	1	1	6
Total other comprehensive income (loss)	999	—	(5)	115
Comprehensive income	$ 3,511	$ 16	$ 207	$ 420

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 257	$ 301	$ 249	$ 121	$ 349	$ 131	$ 67	$ 93	$ 638	$ (32)
(24)	—	—	(16)	(402)	(208)	(104)	(9)	—	48
(21)	(23)	—	(8)	—	—	—	—	(45)	(10)
—	—	—	—	47	—	6	4	6	11
—	—	—	—	117	—	(1)	—	—	—
2	3	4	—	(7)	1	—	2	(2)	—
(43)	(20)	4	(24)	(245)	(207)	(99)	(3)	(41)	49
$ 214	$ 281	$ 253	$ 97	$ 104	$ (76)	$ (32)	$ 90	$ 597	$ 17
$ 256	$ 271	$ 244	$ 117	$ 392	$ 121	$ 49	$ 106	$ 205	$ 60
64	—	—	16	8	38	23	—	—	19
16	(7)	—	12	—	—	—	—	199	52
—	—	—	—	56	—	6	4	7	3
—	—	—	—	85	—	—	—	—	—
(2)	(10)	(8)	(3)	1	(2)	—	(2)	(5)	—
78	(17)	(8)	25	150	36	29	2	201	74
$ 334	$ 254	$ 236	$ 142	$ 542	$ 157	$ 78	$ 108	$ 406	$ 134
$ 148	$ 338	$ 261	$ 203	$ 343	$ 110	$ 88	$ 119	$ 308	$ 61
(67)	—	—	(12)	(524)	(64)	(24)	—	—	(31)
—	—	—	—	2	—	—	—	—	—
58	166	—	36	8	—	—	—	637	182
—	—	—	—	61	—	9	5	7	4
—	—	—	—	413	—	—	—	—	—
—	4	2	8	—	2	—	2	5	—
(9)	170	2	32	(40)	(62)	(15)	7	649	155
$ 139	$ 508	$ 263	$ 235	$ 303	$ 48	$ 73	$ 126	$ 957	$ 216

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CAPITAL
YEARS ENDED DECEMBER 31, 2015, 2014 AND 2013

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Balance, December 31, 2012	$ 42,540	$ 76	$ 3,566	$ 5,491
Proceeds from issuance of capital stock	16,697	1	210	4,144
Repurchases/redemptions of capital stock	(14,793)	(2)	(275)	(3,365)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(2,101)	1	(860)	(5)
Dividends of capital stock	37	—	—	—
Comprehensive income (loss)	3,511	16	207	420
Dividends				
Cash	(806)	(1)	(11)	(200)
Stock	(37)	—	—	—
Balance, December 31, 2013	45,048	91	2,837	6,485
Proceeds from issuance of capital stock	17,305	—	204	3,852
Repurchases/redemptions of capital stock	(16,421)	(3)	(266)	(3,843)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(605)	1	(55)	—
Dividends of capital stock	51	1	—	—
Comprehensive income (loss)	2,810	(39)	195	263
Dividends				
Cash	(1,134)	(1)	(37)	(231)
Stock	(51)	(1)	—	—
Balance, December 31, 2014	47,003	49	2,878	6,526
Proceeds from issuance of capital stock	20,962	2	269	4,173
Capital stock issued from merger	894	—	—	—
Repurchases/redemptions of capital stock	(19,517)	(1)	(345)	(4,159)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(1,038)	(1)	—	(9)
Dividends of capital stock	73	—	—	—
Additional capital from merger	246	—	—	—
Comprehensive income (loss)	2,219	(25)	283	416
Capital stock canceled and other merger activity	(1,258)	—	—	—
Dividends				
Cash	(1,441)	6	(62)	(228)
Stock	(73)	—	—	—
Balance, December 31, 2015	$ 48,070	$ 30	$ 3,023	$ 6,719

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 3,428	$ 6,275	$ 4,537	$ 2,209	$ 3,448	$ 2,834	$ 1,771	$ 1,721	$ 5,613	$ 1,571
1,665	4,960	721	166	435	2,371	980	503	530	11
(1,517)	(4,966)	—	(95)	(357)	(1,721)	(1,051)	(191)	(1,226)	(27)
(1)	(9)	(33)	(95)	(58)	(21)	(26)	(357)	(4)	(633)
—	—	—	—	—	—	4	33	—	—
139	508	263	235	303	48	73	126	957	216
(21)	(116)	(178)	(58)	(6)	(54)	—	—	(161)	—
—	—	—	—	—	—	(4)	(33)	—	—
3,693	6,652	5,310	2,362	3,765	3,457	1,747	1,802	5,709	1,138
2,135	5,034	84	174	396	2,666	1,177	782	762	39
(2,048)	(4,760)	(498)	(233)	(160)	(1,858)	(1,079)	(712)	(941)	(20)
(8)	(7)	(17)	—	(4)	(31)	(3)	(394)	(3)	(84)
—	—	—	—	—	—	4	46	—	—
334	254	236	142	542	157	78	108	406	134
(104)	(182)	(176)	(69)	(14)	(79)	—	—	(240)	(1)
—	—	—	—	—	—	(4)	(46)	—	—
4,002	6,991	4,939	2,376	4,525	4,312	1,920	1,586	5,693	1,206
3,153	5,606	191	217	374	3,664	1,206	1,226	829	52
—	—	—	—	—	894	—	—	—	—
(2,618)	(5,634)	—	(240)	(324)	(3,385)	(887)	(473)	(1,439)	(12)
(36)	(21)	(29)	—	(2)	72	(7)	(586)	(415)	(4)
—	—	—	—	—	—	5	68	—	—
—	—	—	—	—	246	—	—	—	—
214	281	253	97	104	(76)	(32)	90	597	17
—	—	—	—	—	—	—	—	—	(1,258)
(214)	(207)	(173)	(64)	(25)	(102)	(1)	(1)	(369)	(1)
—	—	—	—	—	—	(5)	(68)	—	—
$ 4,501	$ 7,016	$ 5,181	$ 2,386	$ 4,652	$ 5,625	$ 2,199	$ 1,842	$ 4,896	$ —

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2015

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Operating activities				
Net cash provided by (used in) operating activities	$ 3,864	$ (2)	$ 277	$ 682
Investing activities				
Net change/net proceeds and payments in				
Premises, software, and equipment	(57)	(1)	(1)	(2)
Investments	(3,382)	(2)	(1,203)	(210)
Advances	(65,535)	3	(2,694)	3,680
Mortgage loans held for portfolio	(1,167)	(1)	(118)	(404)
Proceeds from sales of foreclosed assets	103	—	8	3
Principal collected on other loans	2	—	—	—
Cash transferred for merger	—	—	—	—
Net cash provided by (used in) investing activities	(70,036)	(1)	(4,008)	3,067
Financing activities				
Net change in				
Deposits and pass-through reserves	(59)	—	114	(453)
Net proceeds (payments) on derivative contracts with financing element	(703)	—	(18)	(221)
Net proceeds from issuance of consolidated obligations				
Discount notes	3,553,414	(2)	142,834	207,883
Bonds	304,426	(1)	11,782	50,340
Bonds transferred from other FHLBanks	—	(123)	88	35
Payments for maturing and retiring consolidated obligations				
Discount notes	(3,421,830)	(1)	(139,670)	(211,089)
Bonds	(378,287)	—	(11,875)	(56,065)
Bonds transferred to other FHLBanks	—	123	—	(88)
Proceeds from issuance of capital stock	20,962	2	269	4,173
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(2,925)	—	(257)	(9)
Payments for repurchases/redemptions of capital stock	(19,517)	(1)	(345)	(4,159)
Cash dividends paid	(1,441)	6	(62)	(228)
Net cash provided by (used in) financing activities	54,040	3	2,860	(9,881)
Net increase (decrease) in cash and due from banks	(12,132)	—	(871)	(6,132)
Cash and due from banks at beginning of the period	26,421	—	1,125	6,459
Cash and due from banks at end of the period	$ 14,289	$ —	$ 254	$ 327

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 135	$ 389	$ 333	$ 251	$ 570	$ 189	$ 195	$ 202	$ 689	$ (46)
(4)	(5)	(2)	(4)	(11)	(9)	(5)	(1)	(12)	—
538	1,388	(11,340)	276	4,019	(1,335)	1,208	(4,094)	(446)	7,819
(11,208)	(4,963)	(2,943)	(6,177)	(4,301)	(14,939)	(5,855)	(5,330)	(12,011)	1,203
20	150	(1,031)	(1,340)	1,220	396	16	(183)	53	55
11	15	—	—	42	14	—	6	4	—
—	—	—	—	—	—	—	2	—	—
—	—	—	—	—	2,341	—	—	—	(2,341)
(10,643)	(3,415)	(15,316)	(7,245)	969	(13,532)	(4,636)	(9,600)	(12,412)	6,736
35	(31)	75	(528)	(125)	226	250	156	262	(40)
(32)	(97)	(28)	(58)	(60)	(8)	(146)	(42)	17	(10)
154,730	657,748	305,975	101,486	277,115	283,542	674,400	309,022	106,536	332,145
35,226	61,513	19,043	22,235	10,283	20,139	18,143	14,136	38,935	2,652
—	—	—	—	—	—	—	—	—	—
(149,530)	(625,495)	(270,028)	(94,809)	(266,620)	(254,806)	(672,993)	(301,433)	(100,717)	(334,639)
(30,285)	(89,515)	(43,118)	(19,862)	(21,962)	(34,866)	(16,199)	(14,468)	(33,968)	(6,104)
—	—	—	—	(35)	—	—	—	—	—
3,153	5,606	191	217	374	3,664	1,206	1,226	829	52
(31)	(26)	(54)	(2)	(3)	(574)	(3)	(587)	(646)	(733)
(2,618)	(5,634)	—	(240)	(324)	(3,385)	(887)	(473)	(1,439)	(12)
(214)	(207)	(173)	(64)	(25)	(102)	(1)	(1)	(369)	(1)
10,434	3,862	11,883	8,375	(1,382)	13,830	3,770	7,536	9,440	(6,690)
(74)	836	(3,100)	1,381	157	487	(671)	(1,862)	(2,283)	—
2,451	915	3,110	3,551	342	495	1,508	2,545	3,920	—
$ 2,377	$ 1,751	$ 10	$ 4,932	$ 499	$ 982	$ 837	$ 683	$ 1,637	$ —

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2014

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Operating activities				
Net cash provided by (used in) operating activities	$ 3,049	$ 3	$ 65	$ 589
Investing activities				
Net change/net proceeds and payment in				
Premises, software, and equipment	(49)	1	(2)	(2)
Investments	(25,421)	1	(3,753)	(4,738)
Advances	(73,104)	1	(6,057)	(8,481)
Mortgage loans held for portfolio	758	(2)	(130)	(207)
Proceeds from sales of foreclosed assets	163	—	8	2
Principal collected on other loans	2	—	—	—
Net cash provided by (used in) investing activities	(97,651)	1	(9,934)	(13,426)
Financing activities				
Net change in				
Deposits and pass-through reserves	(1,266)	(1)	(147)	171
Net proceeds (payments) on derivative contracts with financing element	(798)	1	(18)	(237)
Net proceeds from issuance of consolidated obligations				
Discount notes	3,969,949	3	127,396	197,930
Bonds	348,749	(1)	11,963	57,185
Bonds transferred from other FHLBanks	—	(66)	—	—
Payments for maturing and retiring consolidated obligations				
Discount notes	(3,900,963)	(1)	(118,149)	(193,757)
Bonds	(337,198)	(1)	(9,860)	(57,013)
Bonds transferred to other FHLBanks	—	66	—	(66)
Proceeds from issuance of capital stock	17,305	—	204	3,852
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(2,973)	—	(733)	(5)
Payments for repurchases/redemptions of capital stock	(16,421)	(3)	(266)	(3,843)
Cash dividends paid	(1,134)	(1)	(37)	(231)
Net cash provided by (used in) financing activities	75,250	(4)	10,353	3,986
Net increase (decrease) in cash and due from banks	(19,352)	—	484	(8,851)
Cash and due from banks at beginning of the period	45,773	—	641	15,310
Cash and due from banks at end of the period	$ 26,421	$ —	$ 1,125	$ 6,459

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 258	$ 237	$ 285	$ 214	$ 620	$ 148	$ 214	$ 190	$ 165	$ 61
(3)	(5)	(1)	(6)	(11)	(3)	(3)	(1)	(12)	(1)
(2,343)	(9,399)	(3,612)	360	3,728	(2,688)	(4,118)	(833)	3,221	(1,247)
(13,413)	(10,001)	(5,202)	(3,499)	(8,878)	(19,592)	(3,000)	(947)	5,358	607
90	158	(190)	(653)	1,647	(21)	20	(297)	196	147
18	24	—	—	88	15	—	5	3	—
—	—	—	—	—	—	—	2	—	—
(15,651)	(19,223)	(9,005)	(3,798)	(3,426)	(22,289)	(7,101)	(2,071)	8,766	(494)
(49)	(688)	(201)	14	122	(265)	(91)	(364)	254	(21)
(33)	(101)	(31)	(61)	(61)	(9)	(191)	(55)	14	(16)
131,730	470,183	270,415	49,396	1,205,177	215,049	399,156	53,853	104,611	745,050
25,984	84,624	41,461	18,700	20,109	24,565	11,386	10,282	31,415	11,076
66	—	—	—	—	—	—	—	—	—
(122,909)	(465,234)	(267,394)	(44,264)	(1,205,214)	(195,416)	(386,010)	(50,524)	(106,991)	(745,100)
(20,042)	(73,337)	(40,359)	(19,840)	(18,178)	(22,449)	(16,863)	(10,155)	(37,446)	(11,655)
—	—	—	—	—	—	—	—	—	—
2,135	5,034	84	174	396	2,666	1,177	782	762	39
(7)	(12)	(70)	(1)	—	(16)	(1)	(395)	(1,355)	(378)
(2,048)	(4,760)	(498)	(233)	(160)	(1,858)	(1,079)	(712)	(941)	(20)
(104)	(182)	(176)	(69)	(14)	(79)	—	—	(240)	(1)
14,723	15,527	3,231	3,816	2,177	22,188	7,484	2,712	(9,917)	(1,026)
(670)	(3,459)	(5,489)	232	(629)	47	597	831	(986)	(1,459)
3,121	4,374	8,599	3,319	971	448	911	1,714	4,906	1,459
$ 2,451	$ 915	$ 3,110	$ 3,551	$ 342	$ 495	$ 1,508	$ 2,545	$ 3,920	$ —

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2013

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Operating activities				
Net cash provided by (used in) operating activities	$ 3,730	$ (4)	$ 194	$ 526
Investing activities				
Net change/net proceeds and payments in				
Premises, software, and equipment	(75)	1	(2)	(4)
Investments	25,011	(6)	2,391	(1,578)
Advances	(78,920)	1	(6,940)	(16,445)
Mortgage loans held for portfolio	4,782	(1)	89	(96)
Proceeds from sales of foreclosed assets	191	1	12	1
Principal collected on other loans	2	—	—	—
Net cash provided by (used in) investing activities	(49,009)	(4)	(4,450)	(18,122)
Financing activities				
Net change in				
Deposits and pass-through reserves	(2,797)	2	(76)	(138)
Net proceeds (payments) on derivative contracts with financing element	(814)	2	(19)	(238)
Net proceeds from issuance of consolidated obligations				
Discount notes	3,099,326	2	62,164	177,848
Bonds	341,475	1	6,561	64,345
Bonds transferred from other FHLBanks	—	(202)	80	—
Payments for maturing and retiring consolidated obligations				
Discount notes	(3,022,323)	—	(54,742)	(161,755)
Bonds	(339,380)	2	(9,137)	(55,255)
Bonds transferred to other FHLBanks	—	202	—	(29)
Payments for retirement of subordinated notes	(62)	—	—	—
Proceeds from issuance of capital stock	16,697	1	210	4,144
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(4,031)	1	(99)	(4)
Payments for repurchases/redemptions of capital stock	(14,793)	(2)	(275)	(3,365)
Cash dividends paid	(806)	(1)	(11)	(200)
Net cash provided by (used in) financing activities	72,492	8	4,656	25,353
Net increase (decrease) in cash and due from banks	27,213	—	400	7,757
Cash and due from banks at beginning of the period	18,560	—	241	7,553
Cash and due from banks at end of the period	$ 45,773	$ —	$ 641	$ 15,310

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco	Seattle
$ 228	$ 377	$ 321	$ 394	$ 843	$ 114	$ 205	$ 170	$ 220	$ 142
(3)	(3)	(7)	(12)	(14)	(8)	(1)	(4)	(8)	(10)
4,899	5,110	(2,298)	6,254	3,647	(6,731)	3,184	2,117	5,538	2,484
(10,041)	(4,005)	(11,467)	250	(9,086)	(19,305)	2,132	(1,063)	(1,007)	(1,944)
288	295	686	(198)	2,737	359	30	(43)	379	257
23	27	—	—	93	25	—	5	4	—
—	—	—	—	—	—	—	2	—	—
(4,834)	1,424	(13,086)	6,294	(2,623)	(25,660)	5,345	1,014	4,906	787
(330)	(352)	(261)	(715)	(272)	(310)	(290)	(219)	273	(109)
(32)	(157)	(42)	(69)	(69)	(8)	(208)	(56)	66	16
232,106	312,393	165,083	60,950	711,289	129,559	143,194	83,223	107,252	914,263
27,631	74,635	34,035	20,007	15,132	38,190	7,901	8,491	29,195	15,351
—	—	—	—	—	—	—	—	122	—
(228,019)	(311,935)	(157,715)	(62,438)	(711,458)	(100,100)	(144,193)	(81,003)	(88,272)	(920,693)
(24,674)	(75,947)	(20,167)	(20,693)	(15,386)	(41,991)	(11,865)	(10,230)	(45,827)	(8,210)
—	—	—	—	—	(173)	—	—	—	—
—	—	—	—	(62)	—	—	—	—	—
1,665	4,960	721	166	435	2,371	980	503	530	11
(433)	(25)	(128)	(529)	(59)	(21)	(28)	(358)	(2,276)	(72)
(1,517)	(4,966)	—	(95)	(357)	(1,721)	(1,051)	(191)	(1,226)	(27)
(21)	(116)	(178)	(58)	(6)	(54)	—	—	(161)	—
6,376	(1,510)	21,348	(3,474)	(813)	25,742	(5,560)	160	(324)	530
1,770	291	8,583	3,214	(2,593)	196	(10)	1,344	4,802	1,459
1,351	4,083	16	105	3,564	252	921	370	104	—
$ 3,121	$ 4,374	$ 8,599	$ 3,319	$ 971	$ 448	$ 911	$ 1,714	$ 4,906	$ 1,459

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SUPPLEMENTAL INFORMATION

<u>FHLBank Management and Compensation</u>

FHLBank Directors

A board of at least 13 directors, or such other number as the FHFA determines appropriate, governs each FHLBank. The members of each FHLBank elect all of the FHLBank's directors, each of whom is elected for a four-year term, unless otherwise adjusted by the Director of the FHFA in order to achieve an appropriate staggering of terms (with approximately one-fourth of the directors' terms expiring each year). Directors may not serve more than three consecutive full terms. An FHLBank's board of directors must be comprised of a majority of member directors, who are directors or officers of members, and a minority of non-member independent directors. Non-member independent directors must comprise not less than two-fifths of the members of the board of directors and two of these directors must hold public interest director positions.

To be eligible to serve as a member director, a candidate must be a citizen of the United States and be an officer or director of a member institution that is located in the state to which the Director of the FHFA has allocated the directorship and that meets all of the minimum capital requirements established by its appropriate regulator. For member directors, each eligible institution may nominate representatives from member institutions in its respective state to serve on the board of the directors. After the slate of nominees is finalized, each eligible institution may vote for the number of open member director seats in the state in which its principal place of business is located.

To be eligible to serve as a non-member independent director, an individual must be a citizen of the United States and a bona fide resident of that FHLBank's district. A non-member independent director may not be an officer of any FHLBank, or an officer, director, or employee of an FHLBank member on whose board the individual sits or of any recipient of advances from an FHLBank. Under the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), there are two types of non-member independent directors:

- *Public interest director.* Each FHLBank is required to have at least two public interest directors. Before names are placed on the ballot, nominee eligibility will be verified through application and eligibility certification forms prescribed by the FHFA. Public interest directors must have more than four years' experience in representing consumer or community interests in banking services, credit needs, housing, or consumer financial protections. The FHFA deemed existing public interest directors who qualified and were designated under previous FHLBank Act provisions to be public interest directors for the remainder of their current terms.

- *Other non-member independent directors.* Non-member independent directors must have demonstrated knowledge or experience in auditing or accounting, derivatives, financial management, organizational management, project development or risk management practices, or other expertise established by FHFA regulations. In order for a non-member independent director candidate to be elected, a candidate must receive at least 20% of the votes that are eligible to be cast unless there are multiple nominees. The FHFA will impose the FHLBank Act's requirements on newly elected non-member independent directors.

The FHFA's regulation includes the following provisions:

- requires each FHLBank's board of directors to annually determine how many of its non-member independent directors should be designated public interest directors (provided that each FHLBank at all times has at least two public interest directors);

- states that where an FHLBank's board of directors acts to fill a member director vacancy that occurs mid-term, the eligible candidates for that position must be officers or directors of a member institution at the time the FHLBank board of directors acts, not as of the prior year-end; and

- permits an FHLBank that nominates more than one nominee for each open non-member independent director position to declare elected the nominee who receives the highest number of votes, even if the total votes received are less than 20% of the eligible votes.

Eligible members nominate representatives from members in their state to serve as member directors and non-member independent directors are nominated by each FHLBank's board of directors. For the election of both member directors and non-member independent directors, each eligible institution is entitled to cast one vote for each share of stock that it was required to hold as of December 31 of the calendar year immediately preceding the election year (the record date). The number of votes that any member may cast for any one directorship shall not exceed the average number of shares of stock required to be held as of the record date by all member institutions located in the member's state as of the record date.

The board of directors of each FHLBank has the responsibility to establish policies and programs that carry out the FHLBank's housing finance mission. Each board of directors adopts and reviews policies governing the FHLBank's credit, investment, and funding activities, and oversees the implementation of these policies. The directors also must adopt policies to manage the FHLBank's exposure to credit, liquidity, and interest-rate risk. In addition, each board of directors is responsible for monitoring that FHLBank's compliance with FHFA regulations.

The following persons are currently serving as Chair or Vice Chair of an FHLBank and the following information has been provided for each FHLBank primarily based on the information disclosed in its annual report on SEC Form 10-K for the year ended December 31, 2015:

Andrew J. Calamare, 60, is serving as Chair of the board of directors of the FHLBank of Boston. Mr. Calamare has served as president and chief executive officer of The Co-operative Central Bank, located in Boston Massachusetts, since March 2015. Prior to his current position, Mr. Calamare had served as executive vice president of The Co-operative Central Bank since January 2011. Prior to that position, Mr. Calamare served as president and chief executive officer of the Life Insurance Association of Massachusetts since 2000. Prior to that position, Mr. Calamare served as of counsel with the law firm Quinn and Morris, as special counsel to the Rhode Island General Assembly, and as Commissioner of Banks for the Commonwealth of Massachusetts. Mr. Calamare has served as a director of the FHLBank of Boston since March 30, 2007, and his current term as a director will conclude on December 31, 2016.

Stephen G. Crowe, 65, is serving as Vice Chair of the board of directors of the FHLBank of Boston. Mr. Crowe serves as a director of MountainOne Bank and a trustee of MountainOne Financial, its holding company. Mr. Crowe is a Massachusetts certified public accountant. From 2002 to 2012, Mr. Crowe served as president and chief executive officer of MountainOne Bank. Mr. Crowe served as president and chief executive officer of Williamstown Savings Bank from 1994 to 2009 and Hoosac Bank from 2002 to 2009. Mr. Crowe is also a former director of The Savings Bank Life Insurance Company of Massachusetts, which is also a Bank member. Mr. Crowe served as a treasurer of the American Bankers Association in 2011 and 2012, and served on the board of trustees for the Massachusetts College of Liberal Arts from 2004 to 2014. Mr. Crowe's service as a director of the FHLBank of Boston began on January 1, 2012, and his current term will conclude on December 31, 2019.

Michael M. Horn, 76, is serving as Chair of the board of directors of the FHLBank of New York. Mr. Horn has been a partner in the law firm of McCarter & English, LLP since 1990. He has served as the Commissioner of Banking for the State of New Jersey and as the New Jersey State Treasurer. He was also a member of the New Jersey State Assembly and served as a member of the Assembly Banking Committee. In addition, Mr. Horn served on New Jersey's Executive Commission on Ethical Standards both as its Vice Chair and Chairman, was appointed as a State Advisory Member of the Federal Financial Institutions Examination Council, and was a member of the Municipal Securities Rulemaking Board. Mr. Horn is counsel to the New Jersey Bankers Association, was Chairman of the Bank Regulatory Committee of the Banking Law Section of the New Jersey State Bar Association, and is a Fellow of the American Bar Foundation. Mr. Horn's legal and regulatory experience, as indicated by his background, supports his qualifications to serve on the FHLBank of New York's board of directors as an independent director.

James W. Fulmer, 64*,* was elected Vice Chair of the FHLBank of New York effective January 1, 2015. He has been a director of FHLBank of New York member bank The Bank of Castile since 1988 and the chairman since 1992. He also served as chief executive officer of The Bank of Castile from 1996 through 2014 and president from 2002 through 2014. Mr. Fulmer has also served as vice chairman of Tompkins Financial Corporation ("Tompkins Financial"), the parent company of The Bank of Castile, since 2007, and has served as a director of Tompkins Financial since 2000. Since 2001, he has served as chairman of the board of Tompkins Insurance Agencies, Inc., a subsidiary of Tompkins Financial. In addition, since 1999, Mr. Fulmer has served as a member of the board of directors of FHLBank of New York member bank, Mahopac Bank, a subsidiary of Tompkins Financial. Since 2012, he has served as a member of the board of directors for VIST Bank, a subsidiary of Tompkins Financial. He is an active community leader, serving as a member of the board of directors of the Erie and Niagara Insurance Association, Williamsville, NY, Cherry Valley Cooperative Insurance Company, Williamsville, NY, and United Memorial Medical Center in

Batavia, NY. Mr. Fulmer is also Chairman of WXXI Public Broadcasting Council in Rochester, NY. He is a former member of the board of directors of the Catholic Health System of Western New York. He is also former president of the Independent Bankers Association of New York State and former member of the board of directors of the New York Bankers Association.

Patrick A. Bond, 66, joined the Board of Directors of the FHLBank of Pittsburgh in May 2007 and is currently serving as its Chair. He is a Founding General Partner of Mountaineer Capital, LP in Charleston, West Virginia. He graduated with a BS in Industrial Engineering and an MS in Industrial Engineering from West Virginia University. He is a former President of the West Virginia Symphony Orchestra, former Chairman of the Board of Charleston Area Alliance, Chairman of the Board of Directors of Mid-Atlantic Holdings, and a former member of the Bank's Affordable Housing Advisory Council.

John K. Darr, 71, joined the board of directors of the FHLBank of Pittsburgh in January 2008 and is currently serving as its Vice Chair. Mr. Darr retired from the FHLBanks Office of Finance at the end of 2007 where he served as Chief Executive Officer and Managing Director for 15 years. He was responsible for issuing debt in the global capital markets on behalf of the FHLBanks, consistent with their mission of providing low-cost liquidity for member-owner financial institutions. He was also responsible for issuing the FHLBank System's Combined Financial Report and was intimately involved in the FHLBank System's SEC Registration process. Mr. Darr has a total of 45 years of business experience, including several years as Treasurer of the FHLBank of San Francisco, serving as a control officer of three member institutions, and as CFO of Sallie Mae, CEO of a registered investment management company, and Managing Director of Mortgage Finance at a securities dealer. In addition to his service on the Board of the FHLBank of Pittsburgh, Mr. Darr is a Trustee of a mutual fund complex serving as a Trustee of Advisors Inner Circle Fund I, Advisors Inner Circle Fund II, and Bishop Street Funds. Mr. Darr also serves as s director of two non-profit entities, including Meals on Wheels, Lewes/Rehoboth and the West Rehoboth Land Trust.

F. Gary Garczynski, 69, is serving as Chair of the board of directors of FHLBank of Atlanta effective January 1, 2015. He 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 2016 as the Northern Virginia Director to the Commonwealth Transportation Board and the Northern Virginia Transportation Authority. Mr. Garczynski's public interest experience in housing, affordable housing, and housing policy supported his nomination as a public interest director.

Richard A. Whaley, 56, is serving as Vice Chair of the board of directors of FHLBank of Atlanta effective January 1, 2015. He 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 has been a member of the Georgia Municipal Association and Georgia Cities Foundation Special Downtown Task Force since 2011, and has served as a director of the Georgia Bankers Association Insurance Trust, Inc. since June 2013.

Donald J. Mullineaux, 70, has served as Chair of the FHLBank of Cincinnati since January 2015. Dr. Mullineaux is the Emeritus duPont Endowed Chair in Banking and Financial Services in the Gatton College of Business and Economics at the University of Kentucky. He held the duPont Endowed Chair from 1984 until 2014. Previously, he was on the staff of the Federal Reserve Bank of Philadelphia, where he served as Senior Vice President and Director of Research from 1979 until 1984. He also served as a director of Farmers Capital Bank Corporation from 2005 until 2009. He has published numerous articles and lectured on a variety of banking topics, including risk management, financial markets and economics. He has served as the Curriculum Director for the ABA's Stonier Graduate School of Banking since 2001. Dr. Mullineaux brings knowledge and experience to the FHLBank of Cincinnati's Board in areas vital to the operation of financial institutions in today's economy.

William J. Small, 65, has served as Vice Chair of the FHLBank of Cincinnati since January 2014. Mr. Small has been Chairman of First Defiance Financial Corp. and its subsidiary bank, First Federal Bank of the Midwest, of Defiance, Ohio, since 1999. He also served as Chief Executive Officer of First Defiance Financial Corp. from 1999 to December 2013. In addition, he served as Chief Executive Officer of First Federal Bank of the Midwest from 1999 until December 2008.

James D. MacPhee, 68, serves as the Chair of the board of directors of the FHLBank of Indianapolis. He is the Vice Chair of the board of directors of Kalamazoo County State Bank in Schoolcraft, Michigan, after having served as a director and its Chief Executive Officer from 1991 through his retirement in December 2015. Mr. MacPhee also serves as a director of First State Bank in Decatur, Michigan. Mr. MacPhee has worked in the financial services industry since 1968. During his career, Mr. MacPhee has held leadership positions with the Community Bankers of Michigan (formerly the Michigan Association of Community Bankers) and the Independent Community Bankers of America, is a past chair of the latter organization and currently serves on its Executive Committee. He holds an associate's degree in business from Kalamazoo Valley Community College and attended a two-year accelerated executive management program at the University of Michigan (Ross School of Business).

Dan L. Moore, 65, serves as the Vice Chair of the board of directors of the FHLBank of Indianapolis. Mr. Moore is the President and Chief Executive Officer of Home Bank SB in Martinsville, Indiana, and has served in that position since 2006. Prior to that time, Mr. Moore served as that bank's Executive Vice President and Chief Operating Officer. Mr. Moore has also served as a director of Home Bank SB since 2000. He has been employed by Home Bank SB since 1978. Mr. Moore holds a bachelor's degree from Indiana State University and a master of science degree in management from Indiana Wesleyan University.

William W. Sennholz, 50, is Chair of the FHLBank of Chicago and has served in that capacity since January 1, 2016. Mr. Sennholz joined Forward Financial Bank (formerly Marshfield Savings Bank) in Marshfield, Wisconsin, in 2005 as President and Chief Executive Officer. Prior to his service with Forward Financial Bank, he served as President, Chief Executive Officer, and Chairman of the Board of Clarke County State Bank in Osceola, Iowa, from 2002 to 2005. From 1997 to 2002, Mr. Sennholz was the Vice President, Senior Lending Officer at Peoples State Bank in Wausau, Wisconsin. He held various positions of increasing responsibility at M&I First American Bank from 1989 to 1997. In addition to his duties as a director of the FHLBank of Chicago, Mr. Sennholz is also the Chairman of the Marshfield Area YMCA, Chairman of the Marshfield Economic Development Board, and a council member of Hope Lodge (a lodging facility for cancer patients and their families).

Michael G. Steelman, 65, is Vice Chair of the FHLBank of Chicago and has served in that capacity since January 1, 2016. Mr. Steelman has been with the Farmers and Merchants State Bank of Bushnell and its holding company, Prairieland Bancorp., Inc., since 1984. He has served as Chief Executive Officer of Farmers and Merchants State Bank of Bushnell since 1996, and was appointed Chairman in 2001. In addition, Mr. Steelman has served as President and Chairman of the holding company since 2001. Mr. Steelman served as Chairman of the Illinois Bankers Association in 2008-2009, and was actively involved in the legislative and regulatory process at federal and state levels. An attorney practicing in banking law, Mr. Steelman is a member of the Illinois State Bar Association, and a graduate of the University of Wisconsin Graduate School of Banking. Mr. Steelman also serves as Secretary and Director of the Bushnell Economic Development Corporation.

Dale E. Oberkfell, 60, the Chair of the FHLBank of Des Moines, has served in a variety of banking positions during his 30 years in the financial services industry. Mr. Oberkfell currently serves as executive vice president and chief financial officer of Midwest BankCentre and treasurer and board secretary of Midwest BankCentre, Inc. in St. Louis, Missouri, positions he has held since joining Midwest BankCentre in January of 2012. During 2011 and 2010, he served as executive vice president and chief financial officer of Reliance Bancshares, Inc. in Des Peres, Missouri, and as an executive vice president and CFO of Reliance Bank, FSB in Fort Myers, Florida. Mr. Oberkfell was also a partner at the certified public accounting firm of Cummings, Oberkfell & Ristau, P.C. in St. Louis, Missouri. He is a licensed certified public accountant and is a member of the American Institute of Certified Public Accountants. He has held board position for numerous charitable organizations, including Good Shepard Family and Children's Services, the West County YMCA, St. Louis Children's Choir, and Young Audiences. Mr. Oberkfell's position as an officer of a member institution and his involvement in and knowledge of accounting, auditing, internal controls, and financial management, as indicated by his background, support his qualifications to serve on the FHLBank of Des Moines' board of directors.

William V. Humphreys, 68, the Vice Chair of the FHLBank of Des Moines has more than 36 years of banking experience, including president and chief executive officer of Citizens Bank, a commercial banking services provider, and Citizens Bancorp, a publicly-traded bank holding company in Corvallis, Oregon, from 1996 to 2015. Mr. Humphreys retired from his positions as president and chief executive officer of Citizens Bank and Citizens Bankcorp in 2015 but currently remains a director of these institutions. He has held board positions for numerous organizations, and is currently chair of Citizen's Bank and of the American Bankers Association Federal Home Loan Bank Committee. He previously served as chair of the Oregon Bankers Association, and director and chair of the State of Oregon Banking board. He also has served as a faculty member at Oregon

Bankers Association Directors College. Mr. Humphreys was recently recognized as a Board Leadership Fellow by the National Association of Corporate Directors. Mr. Humphreys was elected to the FHLBank of Seattle's board from the state of Oregon in 2006 and served as the FHLBank of Seattle's board chair from 2010 until the Merger in 2015. Mr. Humphreys' knowledge of community banking, and his experience in financial and balance sheet management, corporate governance, organizational leadership, risk assessment, and project development, as indicated by his background, support his qualifications to serve on the FHLBank of Des Moines' board of directors.

Joseph F. Quinlan, Jr., 68, is Chair of the Board of Directors of the FHLBank of Dallas and has served in that capacity since January 1, 2015. Mr. Quinlan serves as Chairman of First National Bankers Bank (a member of the FHLBank of Dallas) and as Chairman, President and Chief Executive Officer of its privately held holding company, First National Bankers Bankshares, Inc. (Baton Rouge, Louisiana) and has served in such capacities since 1984. From 2000 through March 2011, Mr. Quinlan also served as Chairman of the Mississippi National Bankers Bank, a former member of the FHLBank of Dallas, and from 2003 through March 2011 he served as Chairman of the First National Bankers Bank, Alabama. Further, Mr. Quinlan served as a director of the Arkansas Bankers Bank, a former member of the FHLBank of Dallas, from December 2008 through March 2011 and as its Chairman from February 2009 through March 2011. Mississippi National Bankers Bank, First National Bankers Bank, Alabama, and Arkansas Bankers Bank were merged into First National Bankers Bank on March 31, 2011. Since 2003, Mr. Quinlan has also served as Chairman of FNBB Capital Markets, LLC. In addition, Mr. Quinlan serves as Chairman of FNBB Insurance Agency LLC and has served in that capacity since 2010. He currently serves on the Council of Federal Home Loan Banks and is a member of the Chair and Vice Chair Committee of the Council of Federal Home Loan Banks. Mr. Quinlan also serves as Chairman of the Executive and Governance Committee of the FHLBank of Dallas' Board of Directors.

Robert M. Rigby, 69*,* is Vice Chair of the Board of Directors of the FHLBank of Dallas and has served in that capacity since January 1, 2015. Mr. Rigby serves as Market President of Liberty Bank in North Richland Hills, Texas (a member of the FHLBank of Dallas) and has served in that capacity since August 2008. From 1998 to August 2008, he served as a director, President and Chief Executive Officer of Liberty Bank. Since August 2008, he has served as an advisory director for Liberty Bank. Prior to joining Liberty Bank, Mr. Rigby served as a director and Executive Vice President of First National Bank of Weatherford from 1980 to 1998. He currently serves as an advisory director for the Texas Tech University School of Banking . In addition, Mr. Rigby serves as vice chairman of the North Richland Hills Economic Development Advisory Committee. He previously served on the BankPac Committee of the American Bankers Association and he is a past chairman of the Texas Bankers Association. Further, Mr. Rigby previously served on the Weatherford College Board of Trustees, the board of directors of the Birdville ISD Education Foundation and as an advisory director for the North Texas Special Needs Assistance Partners. He is also a past chairman of the Northeast Tarrant Chamber of Commerce. Mr. Rigby currently serves on the Council of Federal Home Loan Banks and is a member of the Chair and Vice Chair Committee of the Council of Federal Home Loan Banks. He also serves as Vice Chairman of the Executive and Governance Committee of the FHLBank of Dallas' Board of Directors.

G. Bridger Cox, 63, is the Chair of the board of directors of the FHLBank of Topeka and he has been Chairman and President of Citizens Bank & Trust Company, Ardmore, Oklahoma, since 1996. Although the FHLBank of Topeka's Board of Directors did not participate in Mr. Cox's nomination since he is a member director, Mr. Cox is a graduate of the Stonier Graduate School of Banking at Rutgers University, possesses more than 30 years of banking management experience, has served on the board of directors of the Oklahoma Industrial Finance Authority and the Oklahoma Development Finance Authority, and has prior experience as an FHLBank of Topeka director, that assists in his service as a director. Prior to his current term, Mr. Cox served as a member director of the FHLBank of Topeka from January 1998 through December 2006.

Robert E. Caldwell, II, 45, is Vice Chair of the board of directors of the FHLBank of Topeka and is currently Director of Corporate Development for Nebco, Inc., a supplier of materials to the construction industry to construct buildings, streets and highways, since August 2014. Prior to his service at Nebco, Inc., Mr. Caldwell was the President and Chief Operating Officer of WRK Real Estate, LLC, a real estate management and development company, since January 2014. He previously served as President and Chief Executive Officer of Hampton Enterprises, Inc., a commercial real estate development, general contracting, construction management and property management firm, from 2006 through 2013. Prior to 2006, he served as General Counsel for Linweld, Inc., a large independent manufacturer and distributor of industrial/medical gases and welding supplies. The board of directors of the FHLBank of Topeka considered Mr. Caldwell's qualifications, skills and attributes, including his B.S. in business administration, his J.D. and MBA, his experience as General Counsel for Linweld, Inc., a subsidiary of a Japanese public company, his service as President and Chief Executive Officer of a commercial real estate and construction company, and his prior service as an FHLBank director, when making his nomination.

Douglas H. (Tad) Lowrey, 63, is the Chair of the board of directors of the FHLBank of San Francisco, and has been non-executive Chairman of Pacific Western Bank since its acquisition of CapitalSource Bank in April 2014. He also served as director of PacWest Bancorp since 2014. Mr. Lowrey served as the Chief Executive Officer of CapitalSource Bank, Los Angeles, California, from July 2008 to April 2014 and served as its chairman from 2012 until April 2014. Since August 2015 he has served as a senior advisor for Alliance Partners, a bank advisory, lending and asset management firm. Mr. Lowrey has held positions as chief executive officer, president, chairman, director, and chief financial officer for several financial institutions since 1983. He is the current Chairman of the California Bankers Association. He also served as vice president of the Thrift Institutions Advisory Council to the Board of Governors of the Federal Reserve Bank, and as a member of the Savings Association Insurance Fund Industry Advisory Committee to the Federal Deposit Insurance Corporation. He previously served on the FHLBank of San Francisco's board of directors from 1996 to 1998 and from 1999 to 2003 and was its vice chairman in 2003. Mr. Lowrey's current position as the chairman of an FHLBank of San Francisco member; his previous positions as principal executive officer, principal financial officer, director, and chairman of FHLBank of San Francisco members and other financial institutions; and his involvement in and knowledge of corporate governance, finance, auditing, accounting, internal controls, risk management, financial reporting, and financial management, as indicated by his background, support Mr. Lowrey's qualifications to serve on the board of directors of the FHLBank of San Francisco.

Melinda Guzman, 52, is the Vice Chair of the board of directors of the FHLBank of San Francisco, and has been a partner with Freeman & Guzman, LLP, a law firm in Sacramento, California, since 1999. Prior to that, she was a partner with Diepenbrock, Wulff, Plant & Hannegan, LLP, also a law firm in Sacramento. Ms. Guzman's practice focuses on tort, labor, insurance, and commercial matters. She previously served on the FHLBank of San Francisco's board of directors from April 2007 through December 2008. Ms. Guzman's involvement and experience in representing community and consumer interests with respect to banking services, in credit needs, in housing and consumer financial protections, and in corporate governance, as indicated by her background, and her management skills derived from her various legislative appointments and her service from 2002 to 2003 as chair of the Nehemiah Corporation of America (a community development corporation), her service from 2001 to 2004 as chairman of the California Hispanic Chamber of Commerce, and her service with other community-based organizations support Ms. Guzman's qualifications to serve on the FHLBank of San Francisco's Board.

FHLBank Presidents and/or Chief Executive Officers

Each FHLBank president and/or CEO reports to the board of directors of the respective FHLBank. Each FHLBank president and/or CEO participates in regular meetings with the presidents and/or CEOs of the other FHLBanks. The responsibilities of the president and/or CEO include:

- management of the FHLBank;
- administration of the programs of the FHLBank; and
- compliance with the regulations and policies of the FHFA.

The following persons are currently serving as president and/or CEO of an FHLBank and the following information has been provided for each FHLBank primarily based on the information disclosed in its annual report on SEC Form 10-K for the year ended December 31, 2015:

Edward A. Hjerpe III, 57, has served as President and Chief Executive Officer of the FHLBank of Boston since July 2009. Mr. Hjerpe joined the FHLBank of Boston from Strata Bank and Service Bancorp, Inc., where he was Interim Chief Executive Officer from September 2008 until joining the FHLBank of Boston. Mr. Hjerpe was a financial, strategy, and management consultant from August 2007 to September 2008, and both President and Chief Operating Officer of the New England Region of Webster Bank N.A. and Senior Vice President of Webster Financial Corporation from May 2004 to June 2007. Prior to those roles, Mr. Hjerpe served as Executive Vice President, Chief Operating Officer, and Chief Financial Officer at FIRSTFED AMERICA BANCORP, Inc. from July 1997 to May 2004. Mr. Hjerpe also worked at the FHLBank of Boston from 1988 to 1997, first as Vice President and Director of Financial Analysis and Economic Research, and ultimately as Executive Vice President and Chief Financial Officer. Mr. Hjerpe has been involved in numerous community, civic, industry, and nonprofit organizations over the course of his career. He currently serves as a member of the board of directors of the Office of Finance and as a member of the FHLBank Presidents Conference. Mr. Hjerpe is also a former member and past chair of the board of Dental Services of Massachusetts, a current member and past chair of the board of trustees of St. Anselm College in Manchester, New Hampshire, and a current member of the board of directors of the Pentegra Defined Benefit Plan for Financial Institutions. Mr. Hjerpe earned a B.A. in Business and Economics from St. Anselm College, and an M.A. and Ph.D. in Economics from the University of Notre Dame.

José R. González, 61, was appointed President and Chief Executive Officer of the FHLBank of New York effective April 1, 2014. In this position, Mr. González directs the FHLBank of New York's overall operations. Mr. González joined the FHLBank of New York as Executive Vice President on October 15, 2013, after serving on the FHLBank of New York's Board of Directors from 2004 through and until September 30, 2013, and as the FHLBank of New York's Vice Chair from 2008 through September 30, 2013. He currently serves on the Board of Directors of the Pentegra Defined Benefit Plan for Financial Institutions. He also, along with the ten other FHLBank Presidents and five independent directors, serves as a Director of the Office of Finance of the Federal Home Loan Banks. Before joining the FHLBank of New York, he was Senior Executive Vice President, Banking and Financial Services, of OFG Bancorp and FHLBank of New York member bank, Oriental Bank, and had held that position since August, 2010. He was President and Chief Executive Officer of Santander BanCorp and Banco Santander Puerto Rico from October 2002 until August 2008, and served as a Director of both entities until August 2010. Mr. González joined the Santander Group in August 1996 as President and Chief Executive Officer of Santander Securities Corporation. He later served as Executive Vice President and Chief Financial Officer of Santander BanCorp and Banco Santander Puerto Rico and in April 2002 was named President and Chief Operating Officer of both entities. Mr. González is a past President of the Puerto Rico Bankers Association and a past president of the Securities Industry Association of Puerto Rico. Mr. González was at Credit Suisse First Boston from 1983 to 1986 as Vice President of Investment Banking, and from 1989 to 1995 as President and Chief Executive Officer of the firm's Puerto Rico subsidiary. From 1986 to 1989, Mr. González was President and Chief Executive Officer of the Government Development Bank for Puerto Rico. From 1980 to 1983, he was in the private practice of law in San Juan, Puerto Rico with the law firm of O'Neill & Borges. Mr. González received his undergraduate degree in economics from Yale University and M.B.A. and J.D. degrees from Harvard University.

Winthrop Watson, 61, was appointed as the FHLBank of Pittsburgh's President and Chief Executive Officer effective January 1, 2011. Previously, he was Chief Operating Officer of the Bank, a position that he assumed in November 2009. Prior to joining the FHLBank of Pittsburgh, Mr. Watson worked at J.P. Morgan for 24 years in a variety of capital markets and financial institution roles most recently as Managing Director in its Asia Pacific investment banking business. Earlier, Mr. Watson led the building of the company's investment and commercial banking franchise for U.S. government-sponsored enterprises. Mr. Watson serves as a director of the Office of Finance of the Federal Home Loan Banks and the Pentegra Defined Benefit Plan. He is involved in the community as a board member of the Pittsburgh Ballet Theater, the Neighborhood Academy, Economics Pennsylvania and the Pennsylvania Economy League of Greater Pittsburgh. Mr. Watson holds an MBA from Stanford University and a BA from the University of Virginia.

W. Wesley McMullan, 52, was appointed as the FHLBank of Atlanta's 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 FHLBank of Atlanta 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. Mr. McMullan also currently serves on the board of Directors of the FHLBanks Office of Finance. He is a Chartered Financial Analyst and earned a B.S. in Finance from Clemson University.

Andrew S. Howell, 54, was appointed as the FHLBank of Cincinnati's President and Chief Executive Officer in June 2012. Previously, he served as Executive Vice President-Chief Operating Officer of the FHLBank of Cincinnati since January 2008. Mr. Howell began his career at the FHLBank of Cincinnati in 1989 as the Credit Department Manager after being in several lending and management positions at Huntington Bank, Bank One, and First National Bank of Cincinnati. Mr. Howell currently serves on the Board of Directors of the FHLBanks Office of Finance. Mr. Howell earned a bachelor's degree of Business Administration from the University of Kentucky, and a Master of Business Administration degree from the University of Cincinnati.

Cindy L. Konich, 59, was selected by the FHLBank of Indianapolis' board of directors to serve as President - Chief Executive Officer of the FHLBank of Indianapolis in July 2013. Prior to that appointment, she served as Acting Co-President - Chief Executive Officer for two periods during 2013. Previously, Ms. Konich had been promoted to Executive Vice President - Chief Operating Officer - Chief Financial Officer in July 2010, after having served as Senior Vice President - Chief Financial Officer, beginning in September 2007. Ms. Konich also currently serves on the Board of Directors of the FHLBanks Office of Finance. Ms. Konich holds an MBA and is a CPA.

Matthew R. Feldman, 62, became President and Chief Executive Officer of the FHLBank of Chicago in May 2008, after serving as Acting President from April 2008 until then. Mr. Feldman was Executive Vice President, Operations and Administration of the FHLBank of Chicago from 2006 to 2008, Senior Vice President, Risk Management of the FHLBank of Chicago from 2004 to 2006 and Senior Vice President, Manager of Operations Analysis of the FHLBank of Chicago from 2003 to

2004. Prior to his employment with the FHLBank of Chicago, Mr. Feldman was founder and Chief Executive Officer of Learning Insights, Inc. from 1996 to 2003. Mr. Feldman conceived, established, financed, and directed the operations of this privately held e-learning company of which he is still Non-Executive Chairman. Mr. Feldman was President of Continental Trust Company, a wholly-owned subsidiary of Continental Bank from 1992 to 1995 and Managing Director-Global Trading and Distribution of Continental Bank from 1988 to 1992. Mr. Feldman currently serves on the Board of Directors of the FHLBank's Office of Finance, as Chairman of the Financing Corporation Directorate, and as Chairman of the Board of the Pentegra Defined Benefit Plan for Financial Institutions.

Richard S. Swanson, 66, has served as the FHLBank of Des Moines' Chief Executive Officer since June of 2006. Prior to the Merger with the FHLBank of Seattle in June of 2015, Mr. Swanson also served as President of the FHLBank of Des Moines. He joined the FHLBank of Des Moines following a career in bank management, corporate and financial law practice, and public service based in Seattle, Washington. From 2004 to 2006, he advised companies in the areas of corporate governance and finance, banking law, and SEC regulation as a principal of the law firm of Hillis, Clark, Martin & Peterson. From 1990 to 2003, Mr. Swanson was Chief Executive Officer and a director of HomeStreet Bank. He also served the FHLBank of Seattle as a member director from 1998 to 2003 and as vice chair from 2002 to 2003. Throughout his career, Mr. Swanson has been a director of public and private companies, as well as non-profit organizations and industry associations. He is recognized as a Board Leadership Fellow by the National Association of Corporate Directors, and currently serves on the Board of Directors of the FHLBanks' Office of Finance. He has also served as director and chair of the Financing Corporation (FICO) and of REFCORP. Mr. Swanson received his undergraduate degree from Harvard College, was a Marshall Scholar at Cambridge University, and earned his law degree from Stanford Law School.

Michael L. Wilson, 59, has been President of the FHLBank of Des Moines since June 2015, and has over 21 years of Federal Home Loan Bank experience. Mr. Wilson was President and CEO of the Seattle Bank from 2012 until its merger into the FHLBank of Des Moines in June 2015, and from 2006 to 2012 he was executive vice president and the chief business officer (CBO) of the FHLBank of Des Moines. During his prior role as CBO, Mr. Wilson was responsible for business activities that served the FHLBank of Des Moines' members and their communities. These activities included credit and mortgage sales, member financial services, community investments, and human resources. Before joining the FHLBank of Des Moines in 2006, Mr. Wilson was a senior executive vice president and the chief operating officer (COO) of the FHLBank of Boston, where he worked for 12 years. In addition, he served as the FHLBank of Boston's executive vice president for finance from 1997 to 1999 and senior vice president for planning and research from 1994 to 1997. Prior to his service at the FHLBank of Boston, he was the director of the Office of Policy and Research at the Federal Housing Finance Board in Washington, D.C. Mr. Wilson has a B.A. in economics and political science from the University of Wisconsin-Milwaukee and a M.S. in economics from the University of Wisconsin-Madison.

Sanjay Bhasin, 47, serves as President and Chief Executive Officer of the FHLBank of Dallas and has served in that capacity since he joined the FHLBank of Dallas in May 2014. Prior to his employment with the FHLBank of Dallas, Mr. Bhasin served as Executive Vice President, Members and Markets for the FHLBank of Chicago from 2011 until May 2014. He joined the FHLBank of Chicago in 2004 as Vice President, Mortgage Finance and was promoted to Senior Vice President, Mortgage Finance in 2007 and to Executive Vice President, Financial Markets in 2008, a position he held until his appointment as Executive Vice President, Members and Markets. Prior to joining the FHLBank of Chicago, Mr. Bhasin was responsible for managing the interest rate risk associated with Bank One, NA’s mortgage pipeline holdings from 1999 to 2004. Mr. Bhasin currently serves on the Council of Federal Home Loan Banks and also currently serves on the Board of Directors of the FHLBanks Office of Finance.

Andrew J. Jetter, 60, became President and Chief Executive Officer of FHLBank of Topeka in September 2002. He served as Executive Vice President and Chief Operating Officer from January 1998 to September 2002. Mr. Jetter joined the FHLBank of Topeka in 1987 as an attorney and was promoted to General Counsel in 1989, Vice President in 1993, and Senior Vice President in 1996. Mr. Jetter also currently serves on the Board of Directors of the FHLBanks Office of Finance.

Dean Schultz, 69, has been President and Chief Executive Officer of the FHLBank of San Francisco since April 1991. Mr. Schultz currently is Vice Chairman of the board of directors of the FHLBanks Office of Finance, which facilitates the issuance and servicing of consolidated obligations for the FHLBanks. Prior to joining the FHLBank of San Francisco, he was Executive Vice President of the FHLBank of New York, where he had also served as Senior Vice President and General Counsel. From 1980 to 1984, he was Senior Vice President and General Counsel with First Federal Savings and Loan Association of Rochester, New York. He previously was a partner in a Rochester law firm.

Chief Executive Officer, FHLBanks Office of Finance

John D. Fisk, 59, began serving as Chief Executive Officer of the Office of Finance on January 1, 2008. Mr. Fisk has over 30 years of experience in the fixed-income and mortgage markets. Prior to joining the Office of Finance in 2004, he was Executive Vice-President for Strategic Planning at MGIC, the nation's largest private mortgage insurer. Previously, Mr. Fisk held a series of increasingly responsible capital market and mortgage positions in his 17 years at Freddie Mac. These included leading the securities sales & trading group and the REMIC Program. By the time of his departure in 2000, he was Executive Vice-President, responsible for all single-family mortgage business. A 1978 graduate of Yale University, Mr. Fisk earned his MBA from the Wharton School at the University of Pennsylvania in 1982.

FHLBanks Office of Finance Board of Directors

The Office of Finance board of directors is comprised of the FHLBank presidents and/or CEO and five independent directors. Jonathan A. Scott is the Chair and Dean Schultz, chief executive officer and president of the FHLBank of San Francisco, is the Vice Chair. The following persons are currently serving as an independent director:

Jonathan A. Scott, Ph.D., 66, was originally appointed as an independent director for a three-year term ending in 2013. In 2013, he was re-elected to a five-year term expiring in 2018. In 2014, he was appointed Chair of the Office of Finance's board of directors. Dr. Scott is a full professor of Finance at Temple University's Fox School of Business and Management, where he has been since 1991. At Temple he is currently the Academic Director of the Fox School's honors program, and Managing Director of the Owl Fund. He also has six years of experience in academic administration at Temple University and managed initiatives related to information technology, program cost analysis, and performance metrics. Prior to joining the university, Dr. Scott was an executive for seven years at the FHLBank of Dallas, including service as the Chief Financial Officer in 1987-1988. Dr. Scott received a Ph.D. in Economics from Purdue University.

J. Michael Davis, 76, was originally appointed as an independent director for a one-year term ending in 2011. In 2011, he was re-elected to a five-year term expiring in 2016. Mr. Davis has over 40 years of experience within the financial services industry. He served on the board of the FHLBank of Topeka, including as vice chair and as a member of the Audit Committee. Mr. Davis held senior executive positions with several farm credit institutions within the Farm Credit System. He also has non-profit board of director experience as chair and treasurer.

Janice C. Eberly, 53*,* was originally appointed as an independent director for a one-year term ending in 2015. In 2015, she was re-elected to a five-year term expiring in 2020. Dr. Eberly is the James R. and Helen D. Russell Distinguished Professor of Finance at the Northwestern University's Kellogg School of Management, where she has been a faculty member since 1998. She served as the Assistant Secretary for Economic Policy and Chief Economist for the United States Treasury from 2011 to 2013, and as an independent director for the FHLBank of Chicago from 2009 to 2011. Dr. Eberly received a Ph.D. in Economics from the Massachusetts Institute of Technology.

Kathleen C. McKinney, 61, was originally appointed as an independent director for a two-year term ending in 2012. In 2012, she was re-elected to a five-year term expiring in 2017. Ms. McKinney is a shareholder in the law firm of Haynsworth Sinkler Boyd, P.A. in South Carolina and has over 35 years of experience as bond counsel and underwriter's counsel in the public finance, community facilities and economic development sectors. She recently served as President of the National Association of Bond Lawyers and is a recognized speaker on public finance legal issues. Her practice includes advising State agencies and local governments on corporate governance matters with respect to debt issuance and investment of public funds. She is past chair of the Furman University Board of Trustees.

Patricia A. Oelrich, 62, was appointed to serve as an independent director for a five-year term ending in 2019. Ms. Oelrich, CPA, CISA, and a National Association of Corporate Directors (NACD) Governance Fellow, has been a member of the board of directors of Pepco Holdings, Inc. since May 2010. She serves as chair of the Audit Committee, and as a member of the Nominating/Governance Committee. From 1995 to 2009, she was with GlaxoSmithKline Pharmaceuticals as Vice President, Internal Audit and then as Vice President, IT Risk Management. Prior to joining GlaxoSmithKline, Ms. Oelrich was an audit partner with Ernst & Young, serving the audit assurance practice from 1975-1995. In 1988, she became a partner and headed the Information Technology Audit and Security Practice in Chicago from 1988 to 1995.

Regulations Governing the Selection and Compensation of FHLBank and Office of Finance Employees

As specified in the FHLBank Act, the selection and compensation of FHLBank officers and employees are subject to the approval of the board of directors and management of each individual FHLBank. However, the Director of the FHFA has the authority to prohibit compensation that is not reasonable and comparable to compensation paid to executives in other similar businesses involving similar duties and responsibilities. The FHFA established several principles for the FHLBanks and the Office of Finance for setting executive compensation policies and practices to ensure sound incentive compensation practices:

- 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 performance over several years; and
- the board of directors of each FHLBank and the Office of Finance should promote accountability and transparency with respect to the process of setting compensation.

Each FHLBank is responsible for establishing that FHLBank's compensation philosophy and objectives, and each FHLBank includes a compensation discussion and analysis relating to all material elements of the compensation of its named executive officers in its annual report on Form 10-K filed with the SEC. (See *Explanatory Statement about Federal Home Loan Banks Combined Financial Report*.)

The FHFA exercises similar supervisory and examination authority over the Office of Finance and its board of directors as it exercises over an FHLBank and its board of directors. FHFA regulations require the Office of Finance board of directors to select, employ, determine the compensation for, and assign the duties of, the Office of Finance chief executive officer. (See *Office of Finance CEO 2015 Compensation Discussion and Analysis* for more information.)

Overview and Objectives of FHLBank and Office of Finance Executive Compensation Programs

Each FHLBank strives to provide total compensation that promotes its mission. Compensation programs at each of the FHLBanks are generally intended to focus executives on achieving their individual FHLBank's mission and to associate executive pay with the FHLBank's corporate goals, performance targets, and strategic plan. Each FHLBank's board of directors determines total compensation for the president and/or CEO of that FHLBank, consisting of base salary, cash incentive compensation, and other benefits as described in Table S-1.

The Office of Finance is only responsible for the compensation policies for its employees. The Office of Finance seeks to provide a flexible and market-based approach to compensation that attracts, retains, and motivates high performing, accomplished financial services executives who, by their individual and collective performance, achieve the Office of Finance's strategic business initiatives. The objectives of the program are to communicate goals and standards of performance for the successful achievement of the Office of Finance's mission. (See *Office of Finance CEO 2015 Compensation Discussion and Analysis* for more information.)

The following information has been provided for each FHLBank primarily based on the information disclosed in its annual report on SEC Form 10-K for the year ended December 31, 2015, which in each case provides detail about the FHLBank's compensation philosophy and objectives. The presentations may not be consistent due to differing FHLBank practices and application and interpretation of the rules.

Table S-1 - FHLBank Presidents and/or CEOs and Office of Finance CEO Summary Compensation
(whole dollars)

FHLBank	President/CEO Name	Year	Salary	Bonus	Non-Equity Incentive Plan Compensation	Change In Pension Value and Nonqualified Deferred Compensation Earnings	All Other Compensation*	Total
Boston	Edward A. Hjerpe III	2015	733,300	29,332	674,487	244,000	90,530	1,771,649
		2014	710,000	—	477,230	700,000	86,490	1,973,720
		2013	669,500	—	434,324	1,000	79,217	1,184,041
New York	José R. González(1)	2015	729,750	—	677,021	60,000	97,968	1,564,739
		2014	700,000	—	428,212	50,000	89,821	1,268,033
Pittsburgh	Winthrop Watson(2)	2015	725,003	—	738,723	249,000	73,137	1,785,863
		2014	694,980	—	578,406	335,000	62,394	1,670,780
		2013	675,000	—	618,041	114,000	60,445	1,467,486
Atlanta	W. Wesley McMullan(3)	2015	751,000	100	757,270	498,478	64,679	2,071,527
		2014	722,000	100	651,166	2,545,955	62,401	3,981,622
		2013	682,500	1,100	681,764	154,640	59,980	1,579,984
Cincinnati	Andrew S. Howell	2015	728,482	—	544,843	889,000	29,536	2,191,861
		2014	692,016	—	479,622	2,431,000	15,600	3,618,238
		2013	617,775	—	340,546	189,000	15,300	1,162,621
Indianapolis	Cindy L. Konich(4)	2015	680,030	—	430,624	1,943,000	15,900	3,069,554
		2014	638,477	—	411,903	3,294,000	26,954	4,371,334
		2013	485,401	—	288,609	113,000	15,300	902,310
Chicago	Matthew R. Feldman	2015	869,450	—	841,280	624,000	15,900	2,350,630
		2014	808,780	—	747,596	1,232,000	15,600	2,803,976
		2013	763,000	—	657,325	283,000	15,300	1,718,625
Des Moines	Richard S. Swanson	2015	720,000	—	565,910	394,000	72,677	1,752,587
		2014	695,000	—	593,780	1,004,000	68,513	2,361,293
		2013	670,000	—	500,001	242,000	67,700	1,479,701
	Michael L. Wilson(5)	2015	420,000	—	329,412	222,250	175,943	1,147,605
Dallas	Sanjay Bhasin(6)	2015	637,500	100,000	350,849	22,000	37,894	1,148,243
		2014	400,240	150,000	199,531	153,000	237,248	1,140,019
Topeka	Andrew J. Jetter(7)	2015	711,187	—	684,512	185,015	61,085	1,641,799
		2014	685,721	—	627,386	2,067,470	69,827	3,450,404
		2013	665,750	—	586,898	17,716	77,840	1,348,204
San Francisco	Dean Schultz(8)	2015	852,800	35,533	818,300	—	61,106	1,767,739
		2014	828,000	—	750,100	67,313	61,644	1,707,057
		2013	811,800	—	1,054,700	414,378	61,104	2,341,982
Seattle	Michael L. Wilson(9)	2015	269,646	—	608,194	—	32,762	910,602
		2014	628,300	—	593,512	622,000	64,706	1,908,518
		2013	610,000	—	249,280	60,000	60,217	979,497
Office of Finance	John D. Fisk(10)	2015	696,000	—	619,602	230,000	19,649	1,565,251
		2014	669,500	—	640,825	948,000	24,775	2,283,100
		2013	650,000	—	726,746	—	24,796	1,401,542

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* Compensation in this column is further presented in Table S-2 - All Other Compensation.

(1) Mr. González was appointed President and Chief Executive Officer of the FHLBank of New York on April 1, 2014.

(2) Mr. Watson's 2015 non-equity incentive plan compensation was the incentive plans described in the FHLBank of Pittsburgh's Form 10-K, as well as deferred incentive earned in the 2014 and 2013 Executive Officer Incentive Compensation Plan.

(3) Mr. McMullan's amount under the non-equity incentive plan compensation includes the dollar value of all earnings for services performed during the fiscal years ended December 31, 2015, 2014 and 2013 pursuant to awards under the FHLBank of Atlanta incentive compensation plan, subject to certain mandatory deferral requirements. 50% of the incentive compensation awards for each year were subject to mandatory deferral over three years. Also included is the dollar value of all interest during each year earned on deferred incentives related to incentive compensation awards for prior fiscal years. The $100 bonus amounts for Mr. McMullan in each year reflect an annual $100 employee appreciation bonus provided to all employees of FHLBank of Atlanta. The 2013 bonus amount for Mr. McMullan includes an award payment of $1,000 under the FHLBank of Atlanta's Service Award Program to recognize employees with five or more years of service. The Service Award Program is administrated by the FHLBank of Atlanta's human resources department and is available to all employees of FHLBank of Atlanta under the same general terms and conditions. To the extent the FHLBank of Atlanta provided a tax gross-up on such awards, those amounts are included in All Other Compensation.

(4) Ms. Konich was appointed as President - Chief Executive Officer effective July 22, 2013. Ms. Konich served as Executive Vice President - Chief Operating Officer - Chief Financial Officer from July 30, 2010 until July 22, 2013, and also served in the additional capacity of Acting Co-President - CEO during a portion of 2013.

(5) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Wilson, former FHLBank of Seattle CEO, became the President of the FHLBank of Des Moines. These amounts reflect Mr. Wilson's compensation at the FHLBank of Des Moines since June 1, 2015.

(6) Mr. Bhasin became President and Chief Executive Officer of the FHLBank of Dallas on May 12, 2014.

(7) Mr. Jetter's pension value decreased by $513,000 during 2013. In accordance with SEC rules, this negative amount is not included in this table.
(8) Mr. Schultz's pension value decreased by $167,764 during 2015. In accordance with SEC rules, this negative amount is not included in this table.
(9) The FHLBank of Seattle ceased operations on May 31, 2015. These amounts reflect Mr. Wilson's compensation at the FHLBank of Seattle for the five months ended May 31, 2015.
(10) Mr. Fisk's pension value decreased by $110,000 during 2013. In accordance with SEC rules, this negative amount is not included in this table.

FHLBank President and/or CEO Employment Agreements

FHLBank of Boston. The FHLBank of Boston has a change-in-control agreement with Mr. Hjerpe. The FHLBank of Boston's board of directors had determined that having the change in control agreement in place would be an effective recruitment and retention tool since the events under which it provides payment to Mr. Hjerpe would provide a measure of protection to Mr. Hjerpe in the instance of the FHLBank of Boston's relocation in excess of 50 miles or his termination of employment or material diminution in duties or base compensation resulting from merger, consolidation, reorganization, sale of all or substantially all of the FHLBank of Boston's assets, or the liquidation or dissolution of the FHLBank of Boston. Under the terms of the change in control agreement, in the event that either:

- Mr. Hjerpe terminates his employment with the FHLBank of Boston for a good reason (as defined in the change in control agreement) that is not remedied within certain cure periods by the FHLBank of Boston; or
- the FHLBank of Boston (or the FHLBank of Boston's successor in the event of reorganization) terminates Mr. Hjerpe's employment without cause (as defined by the change in control agreement).

The FHLBank of Boston has agreed to pay Mr. Hjerpe an amount equal to his annualized base salary at the time of such termination to be paid in equal installments over the following 12 months according to the FHLBank of Boston's regular payroll cycle during such period. Notwithstanding the foregoing, the FHLBank of Boston's obligation to pay Mr. Hjerpe such amount will be subject to Mr. Hjerpe's execution of the FHLBank of Boston's standard release of claims agreement and the FHLBank of Boston's compliance with applicable statutory and regulatory requirements at the time such payment would otherwise be made. Payments to Mr. Hjerpe under the change in control agreement are in lieu of any severance payments that would be otherwise payable to him.

FHLBank of New York. The FHLBank of New York is an "at will" employer and does not provide written employment agreements to any of its employees except for change in control agreements for certain senior executives as discussed below. However, employees, including the president, receive:

- cash compensation (i.e., base salary, and, for exempt employees, "variable" or "at risk" short-term incentive compensation);
- retirement-related benefits (i.e., qualified defined benefit plan; qualified defined contribution plan; and nonqualified defined benefit portion of the benefit equalization plan); and
- health and welfare programs and other benefits.

Other benefits, which are available to all regular employees, include medical, dental, vision care, life, business travel accident insurance, and short- and long-term disability insurance, flexible spending accounts, an employee assistance program, educational development assistance, voluntary life insurance, long-term care insurance, fitness club reimbursement, and severance pay. An additional benefit offered to all officers who are at vice-president rank or above, is a physical examination every 18 months.

In addition, Mr. González and the FHLBank of New York have entered into an Employee Change in Control Agreement ("CIC Agreement"), which is intended to provide Mr. González with certain severance payments and benefits in the event his employment is terminated in connection with a "change in control" of the FHLBank of New York. Certain other senior officers have also entered into CIC Agreements with the FHLBank of New York. The CIC Agreements are effective commencing December 1, 2015 for three (3) years from the date the CIC Agreement is executed. Under the terms of the CIC Agreements, if the executive’s employment with FHLBank of New York is terminated by FHLBank of New York without "cause" or by the executive for "good reason" (as such terms are defined in the CIC Agreement) during the period beginning on the earliest of twelve (12) months prior to the execution by FHLBank of New York of a definitive agreement regarding a Change in Control, or if a Change in Control is mandated by federal statute, rule or directive or by a plan to liquidate or dissolve the FHLBank of New York, and ending, in all cases, twenty-four (24) months following the effective date of the Change in Control, the executive becomes entitled to certain severance payments and benefits.

FHLBank of Pittsburgh. In the event of a merger of the FHLBank of Pittsburgh with another FHLBank, where the merger results in the termination of employment (including resignation for "good reason" as defined under the change in control agreement) for the CEO or any other Executives, each such individual(s) is (are) eligible for severance payments under his/her change in control agreement. Such severance is in lieu of severance under the Severance Policy discussed above. The Severance Policy (and in the case of the CEO, his separate severance agreement) continues to apply to employment terminations of the other Executives, other than those resulting from an FHLBank merger. Benefits under the CIC agreement for the CEO and other Executives are as follows:

- two years base salary;
- two times the incentive compensation award payout eligibility at target in the year of separation from service;
- effective January 1, 2015 taxable compensation equivalent to the FHLBank of Pittsburgh's monthly contribution to its active employees' medical plan coverage for the benefits continuation period of 18 months; and
- individualized outplacement service for a maximum of 12 months.

In addition, under his change in control agreement, the CEO also receives a payment equal to the additional benefit amount that he would receive for two additional years of credited service at the same annual compensation at the time of separation from the FHLBank of Pittsburgh under the qualified and nonqualified defined benefit plans and two times six percent of his annual compensation (as defined in the Supplemental Thrift Plan) in the year of separation from service. This amount is intended to replace the matching contribution under the FHLBank of Pittsburgh's qualified and nonqualified defined contribution plans.

FHLBank of Atlanta. The FHLBank of Atlanta entered into an employment agreement with Mr. McMullan in connection with his employment as president and chief executive officer (McMullan Agreement), effective as of January 1, 2014. Under the McMullan Agreement, Mr. McMullan's employment with the FHLBank of Atlanta may be terminated at any time by the FHLBank of Atlanta, with or without "cause," or by Mr. McMullan, with or without "good reason," each as defined in the McMullan Agreement. Unless earlier terminated by either party as provided therein, the McMullan Agreement has a three-year term and will extend automatically for subsequent one-year periods unless either party elects not to renew. If during the term of his employment Mr. McMullan is terminated without "cause" or resigns for "good reason," the McMullan Agreement provides for severance pay in an amount equal to: (1) his then-current annual base salary, payable in a lump sum within 30 days after Mr. McMullan executes and delivers a general release of claims to the FHLBank of Atlanta, and (2) an amount equal to the amount that would have been payable pursuant to his incentive compensation award for the year in which the termination occurs, prorated based upon the number of days Mr. McMullan was employed that year. The incentive compensation award is based upon the FHLBank of Atlanta's actual performance for the year in which the termination occurs and is payable at the same time that such awards are paid to the FHLBank of Atlanta's 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 FHLBank of Atlanta plan, program, policy or practice or contract or agreement. The McMullan Agreement does not provide for any severance pay in the event of a termination with "cause," a termination on account of his death or disability, or his resignation without "good reason."

FHLBank of Cincinnati. Other than normal pension benefits and eligibility to participate in the FHLBank of Cincinnati's retiree supplemental benefits program, no perquisites, tax gross-ups or other special benefits are provided to the president in the event of a change in control, resignation, retirement or other termination of employment.

FHLBank of Indianapolis. The FHLBank of Indianapolis maintains a key employee severance agreement for Ms. Konich. If a termination occurs under certain circumstances, Ms. Konich is entitled to 2.99 times the average of the three prior calendar years' base salary (less salary deferral), bonus, and other cash compensation, salary deferrals and employer matching contributions to the qualified plan, compensation for the loss of the use of a company vehicle (if any), continued medical and dental insurance coverage for 36 months (subject to Ms. Konich paying the employee portion of the cost of such coverage), a gross-up amount to cover the increased tax liability, an additional three years credit to age and years of service for the supplemental executive retirement plan, and reimbursement for reasonable legal, accounting, financial advisory, and actuarial services. If the FHLBank of Indianapolis is not in compliance with any applicable regulatory capital or regulatory leverage requirement at the time payment under the agreement becomes due, or if the payment would cause the FHLBank of Indianapolis to fall below applicable regulatory requirements, the payment would be deferred until such time as the FHLBank of Indianapolis achieves compliance with its regulatory requirements. Moreover, if the FHLBank of Indianapolis was insolvent, had a receiver or conservator appointed, or was in "troubled condition" at the time payment under this agreement became due, the FHFA could deem such a payment to be subject to its rules limiting golden parachute payments.

FHLBank of Chicago. The FHLBank of Chicago entered into a new employment agreement with Mr. Feldman effective January 1, 2015, which replaced his prior agreement that was effective January 1, 2011. The new agreement provides for a four-year employment term ending December 31, 2018, unless terminated earlier as provided for in the agreement. The agreement provides for automatic one-year extensions until such date as the FHLBank of Chicago's board of directors or Mr. Feldman elects not to renew the agreement.

Mr. Feldman's employment agreement allows Mr. Feldman to participate in the FHLBank of Chicago's president and executive team incentive compensation plan. Mr. Feldman is also entitled to participate in the key employee long-term incentive compensation plan for the 2013 to 2015 performance period after which this long-term incentive component of his compensation will be replaced by a deferred award under the president and executive team incentive compensation plan. Mr. Feldman is also entitled to participate in the FHLBank of Chicago's health insurance, life insurance, retirement, and other benefit plans that are generally applicable to the FHLBank of Chicago's other senior executives. Under the employment agreement, the FHLBank of Chicago has agreed to indemnify Mr. Feldman with respect to any tax liabilities and penalties and interest under Section 409A of the Internal Revenue Code of 1986.

Under Mr. Feldman's employment agreement, in the event his employment with the FHLBank of Chicago was terminated either by him with good reason (as defined in the agreement), by the FHLBank of Chicago other than for cause (as defined in the agreement), by non-renewal by the FHLBank of Chicago of the agreement, or as a result of the death or disability of Mr. Feldman, Mr. Feldman was entitled to receive the following payments:

- all accrued and unpaid salary for time worked as of the date of termination;
- all accrued but unutilized vacation time as of the date of termination;
- salary continuation (at the base salary in effect at the time of termination) for a one-year period beginning on the date of termination;
- payment in a lump sum of an amount equal to the minimum total incentive compensation that Mr. Feldman would otherwise have been entitled for:
  (i) the total incentive award (both annual award and deferred award) under the FHLBank of Chicago's president and executive team incentive compensation plan for the year in which termination occurs, calculated as if all performance targets for the annual and deferral award period had been met at the target award level and prorated based on the number of months Mr. Feldman was employed during the year of termination;
  (ii) any incentive award not already paid for the special "gap year" (2013-2015) performance period under the FHLBank of Chicago's key employee long-term incentive compensation plan calculated as if all performance targets for the "gap year" performance period had been met at the target award level and based on the number of months Mr. Feldman was employed during the "gap year" performance period; and
  (iii) any previously deferred award (50% of the total incentive award) under the FHLBank of Chicago's president and executive team incentive compensation plan not subject to proration or further adjustments based on performance target achievement during the deferral period.
- continued participation in the FHLBank of Chicago's employee health care benefit plans in accordance with the terms of its then-current severance plan that would be applicable to him if his employment had been terminated pursuant to such plan, provided that the FHLBank of Chicago will continue paying the employer's portion of medical and/or dental insurance premiums for one year from the date of termination; and
- an additional amount under the FHLBank of Chicago's post-December 31, 2004 benefit equalization plan equal to the additional annual benefit as if such benefit had been calculated as though (i) Mr. Feldman were 3 years older than his actual age and (ii) Mr. Feldman had 3 additional years of service at the same rate of annual compensation in effect for the 12-month period ending on the December 31 immediately preceding the termination of Mr. Feldman's employment.

If Mr. Feldman's employment with the FHLBank of Chicago is terminated by the FHLBank of Chicago for cause or by Mr. Feldman other than for good reason, Mr. Feldman would be entitled only to all accrued and unpaid salary for time worked as of the date of termination and all accrued but unutilized vacation time as of the date of termination. The employment agreement specifies that the human resources and compensation committee of the FHLBank of Chicago's board of directors may in its discretion reduce or eliminate any incentive compensation amounts described in items (i)-(iii) above for certain circumstances related to the performance of the FHLBank of Chicago or Mr. Feldman, as more fully set forth in the FHLBank's president and executive team incentive compensation plan.

The employment agreement provided that Mr. Feldman would not be entitled to any other compensation, bonus or severance pay from the FHLBank of Chicago other than as specified above and any vested rights which he has under any pension, thrift, or other benefit plan, excluding the severance plan. The right to receive termination payments as outlined above was contingent upon, among other things, Mr. Feldman signing a general release of all claims against the FHLBank of Chicago in such form as the FHLBank of Chicago requires.

FHLBank of Des Moines. In connection with the merger between the FHLBank of Seattle and the FHLBank of Des Moines and his service as CEO of the continuing FHLBank, Mr. Swanson entered into a new employment agreement with the FHLBank of Des Moines on January 6, 2015. Mr. Swanson's agreement became effective upon the date of the merger. In addition, with the merger and effective upon the consummation thereof, Mr. Wilson was appointed President of the FHLBank of Des Moines and entered into an employment agreement with the FHLBank of Des Moines in order to establish his duties and compensation and to provide his employment as President, which became effective upon the consummation of the merger.

If Mr. Swanson or Mr. Wilson's (executive) employment is terminated by the FHLBank of Des Moines for cause, the executive's death, disability or retirement, or by the executive without good reason, the executive is entitled to base salary through the date of termination, accrued but unpaid awards under any incentive plan in the amount equal to that which the executive would have received in the year of termination, accrued and earned vacation through the date of termination and all other vested benefits under the terms of the FHLBank of Des Moines's employee benefit plans. If the executive's termination is due to death, disability or retirement, the executive is also entitled to accrued but unpaid incentive plan awards covering periods prior to the one in which he was terminated, the incentive plan award for the calendar year in which the date of termination occurs and prorated for the portion of the calendar year in which the executive was employed, and other coverage continuation rights that are available to such employees upon death, disability, or retirement.

If the executive's employment is terminated by the FHLBank of Des Moines without cause, by the executive for good reason, or as a result of a merger or change in control, the executive is entitled to the following:

- severance payments equal to two times the executive's base salary;
- one times the executive's target annual incentive plan award in effect for the calendar year in which the date of termination occurs;
- the incentive plan award for the calendar year in which the date of termination occurs and pro-rated for the portion of the calendar year in which the executive was employed;
- the accrued but unpaid incentive plan awards covering periods prior to the one in which the executive was terminated and calculated in accordance with the terms of the incentive plan as if termination was due to death, disability, or retirement; and
- State of Iowa benefits continuation, provided that the FHLBank of Des Moines will continue to pay its portion of the medical and/or dental insurance premiums for the executive for the one-year period following the date of termination.

FHLBank of Dallas. On March 24, 2015, the FHLBank of Dallas entered into an employment agreement with Mr. Bhasin. The initial one-year term of the agreement commenced on March 24, 2015 and ended on March 23, 2016. On the expiration of the initial one-year term and on each yearly anniversary thereafter, Mr. Bhasin's employment agreement will automatically renew for an additional one-year term unless either the FHLBank of Dallas or Mr. Bhasin gives a notice of non-renewal. As neither party gave notice of non-renewal, Mr. Bhasin's agreement was automatically extended through March 23, 2017. Under the terms of the employment agreement, in the event that Mr. Bhasin's employment with the FHLBank of Dallas is terminated either by Mr. Bhasin for good reason or by the FHLBank of Dallas other than for cause, or in the event that the FHLBank of Dallas gives notice of non-renewal while Mr. Bhasin is willing and able to continue employment on the same terms, Mr. Bhasin shall be entitled to receive the following severance benefits in addition to those payable under any applicable incentive and benefit programs in effect at the time of termination and in accordance with their terms:

- base salary continuation (at the base salary in effect at the time of termination) for 12 months;

- a pro rata portion of his non-equity incentive plan compensation for the year in which his termination occurs, based on actual performance for such year; and

- continuation of any elective group health and dental insurance benefits that are being provided to him as of his termination date for a period of 12 months.

FHLBank of Topeka. The FHLBank of Topeka entered into a change in control agreement with Mr. Jetter on June 19, 2015. A Change in Control means the occurrence of any of the following events, provided it shall not include any reorganization that is mandated by any Federal statute, rule, regulations or directive: (1) the merger, reorganization, or consolidation of FHLBank Topeka with or into another FHLBank or other entity; (2) the sale or transfer of all or substantially all of the business or assets of FHLBank Topeka to another FHLBank of other entity; (3) the purchase by FHLBank Topeka or transfer to FHLBank Topeka of substantially all of the business or assets of another FHLBank; (4) a change in the composition of the Board of Directors, as a result of one or a series of related transactions, that causes the combined number of member directors from states of Colorado, Kansas, Nebraska and Oklahoma to cease to constitute a majority of the directors of FHLBank Topeka; or (5) the liquidation or dissolution of FHLBank Topeka. The agreement provides for a cash lump sum payment that, when combined with any amount payable under an FHLBank Topeka severance policy, equals a compensation multiplier of 2.99 times (i) his then annualized base salary, and (ii) an amount equal to the target Total Base Opportunity as reflected in FHLBank Topeka's Executive Incentive Compensation Plan Targets document for the year in which the change in control occurs. He is also eligible to receive the continuation of certain group health care benefits for a period of years equal to his compensation multiplier.

The FHLBank of Topeka also provides severance benefits to Mr. Jetter pursuant to the FHLBank of Topeka's Named Executive Officer severance policy. The policy's primary objective is to provide a level of protection to Named Executive Officers from loss of income during a period of unemployment. Mr. Jetter is eligible to receive severance pay under the policy if the FHLBank of Topeka terminates his employment with or without cause, subject to certain limitations. Provided the requirements of the policy are met and Mr. Jetter provides the FHLBank of Topeka an enforceable release, the president will receive severance pay equal to 12 months of his final annual base salary, absent a qualifying event that would result in payments under the Change in Control Plan.

FHLBank of San Francisco. The FHLBank of San Francisco's president is employed on an at-will basis. The president may resign at any time, and the FHLBank of San Francisco may terminate his employment at any time, for any reason or no reason, with or without cause and with or without notice. The FHLBank of San Francisco's board of directors approved a change in control severance agreement for Mr. Schultz, which became effective as of June 1, 2011. The agreement provides for a severance payment and continued benefits if Mr. Schultz's employment terminates under certain circumstances in connection with a change in control (as defined in the agreement) of the FHLBank of San Francisco. In particular, under the terms of Mr. Schultz's agreement, if he terminates his employment for good reason (as defined in the agreement), he shall be entitled to receive, in lieu of any severance benefits to which Mr. Schultz may otherwise be entitled under any severance plan or program of the FHLBank of San Francisco, the following:

- his fully earned but unpaid base salary through the date of termination (together with all other amounts and benefits to which Mr. Schultz is entitled under any benefit plan or practice of the FHLBank of San Francisco other than the FHLBank of San Francisco's corporate senior officer severance policy);

- severance pay in an amount equal to the sum of two times Mr. Schultz's annual base salary plus two times his annual incentive amounts (as defined in the agreement);

- continued health and life insurance coverage (as defined in the agreement) for up to 180 days after the first anniversary of the date of termination of Mr. Schultz's employment (or if earlier, the date he accepts employment from an employer with comparable benefits); and

- executive-level outplacement services at the FHLBank of San Francisco's expense, not to exceed $25,000.

If the FHLBank of San Francisco is not in compliance with any applicable regulatory capital or regulatory leverage requirement, or if any of the payments required to be made pursuant to the severance pay and executive-level outplacement services described above would cause the FHLBank of San Francisco to fall below such applicable regulatory requirements, such payment will be delayed until such time as the FHLBank of San Francisco achieves compliance with its regulatory capital requirements.

Table S-2 - All Other Compensation

(whole dollars)

FHLBank*	President/CEO Name	Year	Termination of Employment or Change of Control if Triggered	Contribution or Other Allocations Made by the FHLBank to Vested and/or Unvested Defined Contribution Plans	Dollar Value of any Insurance Premiums Paid by the FHLBank with Respect to Life Insurance for the Benefit of the President/ CEO	Gross-ups or Other Amounts Reimbursed for the Payment of Taxes	Perquisites and Other Personal Benefits*	Other	Total
Boston	Edward A. Hjerpe III(1)	2015	$ —	$ 72,643	$ —	$ —	$ 17,887	$ —	$ 90,530
		2014	—	68,688	—	—	17,802	—	86,490
		2013	—	61,733	—	—	17,484	—	79,217
New York	José R. González(2)	2015	—	15,900	990	—	37,293	43,785	97,968
		2014	—	11,100	907	—	35,814	42,000	89,821
Pittsburgh	Winthrop Watson	2015	—	62,655	—	—	10,037	445	73,137
		2014	—	61,949	—	—	—	445	62,394
		2013	—	60,000	—	—	—	445	60,445
Atlanta	W. Wesley McMullan(3)	2015	—	45,060	—	2	19,617	—	64,679
		2014	—	43,320	—	50	19,031	—	62,401
		2013	—	40,950	—	550	18,480	—	59,980
Cincinnati	Andrew S. Howell(4)	2015	—	15,900	—	—	13,636	—	29,536
		2014	—	15,600	—	—	—	—	15,600
		2013	—	15,300	—	—	—	—	15,300
Indianapolis	Cindy L. Konich	2015	—	15,900	—	—	—	—	15,900
		2014	—	15,600	—	690	10,664	—	26,954
		2013	—	15,300	—	—	—	—	15,300
Chicago	Matthew R. Feldman	2015	—	15,900	—	—	—	—	15,900
		2014	—	15,600	—	—	—	—	15,600
		2013	—	15,300	—	—	—	—	15,300
Des Moines	Richard S. Swanson(5)	2015	—	60,177	—	—	12,500	—	72,677
		2014	—	59,513	—	—	9,000	—	68,513
		2013	—	55,200	—	—	12,500	—	67,700
	Michael L. Wilson(6)	2015	—	25,200	—	—	150,743	—	175,943
Dallas	Sanjay Bhasin	2015	—	37,894	—	—	—	—	37,894
		2014	—	5,353	—	5,615	—	226,280	237,248
Topeka	Andrew J. Jetter	2015	—	51,664	1,568	—	—	7,853	61,085
		2014	—	50,037	1,486	—	10,648	7,656	69,827
		2013	—	57,919	1,435	—	10,830	7,656	77,840
San Francisco	Dean Schultz(7)	2015	—	50,052	2,520	—	5,669	2,865	61,106
		2014	—	49,680	2,880	—	6,219	2,865	61,644
		2013	—	48,708	2,880	—	6,651	2,865	61,104
Seattle	Michael L. Wilson(8)	2015	—	28,512	—	—	4,250	—	32,762
		2014	—	52,706	—	—	12,000	—	64,706
		2013	—	44,564	—	—	15,653	—	60,217
Office of Finance	John D. Fisk(9)	2015	—	15,900	—	—	3,749	—	19,649
		2014	—	17,274	—	—	7,501	—	24,775
		2013	—	15,300	—	—	9,496	—	24,796

* Only individual amounts greater than $25,000 are required to be disclosed in the footnotes.

(1) Perquisites and other personal benefits amount for Mr. Hjerpe includes the following: personal use of an FHLBank of Boston-owned vehicle, parking, reimbursement for mass transportation, spousal travel expenses, and airline program memberships.

(2) Perquisites and other personal benefits amount for 2015 for Mr. González includes the following: personal use of an FHLBank of New York-provided vehicle, payment of vision insurance premium, payments for dollar amount of funds matched in connection with the Pentegra Defined Contribution Plan for Financial Institutions, payment of group term life insurance premium and supplemental individual term life insurance premium, payment of long term disability insurance premium, payment of health insurance premium, payment of dental insurance premium, and payment of employee assistance program premium.

(3) Perquisites and other personal benefits amount for Mr. McMullan includes reimbursement for travel-related expenses, including an airline program membership, reimbursement for guest travel to certain business functions, and a $1,500 per month automobile allowance. Perquisites are valued at the actual amounts paid by the FHLBank of Atlanta and the value of each perquisite was less than $25,000.

(4) Perquisites and other benefits amount for Mr. Howell includes the following: personal use of an FHLBank of Cincinnati-owned vehicle, premiums for an Executive long-term disability plan, spousal travel expenses and an airline program membership.

(5) Perquisites and other personal benefits amount for Mr. Swanson includes the following: personal use of an FHLBank of Des Moines-provided vehicle and financial planning allowance.
(6) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Wilson, former FHLBank of Seattle CEO, became the President of the FHLBank of Des Moines. These amounts reflect Mr. Wilson's all other compensation at the FHLBank of Des Moines since June 1, 2015. Perquisites and other personal benefits amount for Mr. Wilson includes the following: relocation expenses and personal use of an FHLBank of Des Moines-provided vehicle.
(7) Perquisites and personal other benefits amount for Mr. Schultz include the following: personal use of an FHLBank of San Francisco-provided vehicle and its designated parking space.
(8) The FHLBank of Seattle ceased operations on May 31, 2015. These amounts reflect Mr. Wilson's all other compensation at the FHLBank of Seattle for the five months ended May 31, 2015. Perquisites and personal other benefits amount for Mr. Wilson include FHLBank of Seattle car allowance, office parking, and health club membership, where applicable.
(9) Perquisites and other personal benefits amount for Mr. Fisk include the personal use of an Office of Finance-provided vehicle.

Table S-3 - Grants of Plan-Based Awards
(whole dollars)

				Estimated Future Payouts under Non-Equity Incentive Plan Awards		
FHLBank	**President/CEO Name**		**Grant Date**	**Threshold**	**Target**	**Maximum**
Boston	Edward A. Hjerpe III	(1)	—	$ 183,325	$ 274,988	$ 366,650
New York	José R. González	(2)	1/14/2015	383,119	547,312	711,506
Pittsburgh	Winthrop Watson	(3)	—	181,251	271,876	362,502
		(3)	—	226,563	339,846	453,129
Atlanta	W. Wesley McMullan	(4)	12/12/2014	300,400	563,250	735,980
Cincinnati	Andrew S. Howell	(5)	11/20/2014	168,750	253,125	337,500
		(6)	11/20/2014	168,750	253,125	337,500
Indianapolis	Cindy L. Konich	(7)	12/1/2011	8,500	255,011	340,015
		(8)	12/1/2011	210,266	280,355	350,444
Chicago	Matthew R. Feldman	(9)	1/26/2015	260,835	347,780	434,725
		(10)	1/26/2015	301,982	402,642	503,303
Des Moines	Richard S. Swanson	(11)	12/31/2015	180,000	270,000	360,000
		(12)	12/31/2015	180,000	270,000	360,000
	Michael L. Wilson	(13)	12/31/2015	105,000	157,500	210,000
		(14)	12/31/2015	105,000	157,500	210,000
Dallas	Sanjay Bhasin	(11)	—	181,688	325,125	382,500
		(17)	—	325,125	650,250	975,375
Topeka	Andrew J. Jetter	(11)	1/1/2015	138,150	276,300	414,450
		(15)	1/1/2015	138,150	276,300	414,450
San Francisco	Dean Schultz	(16)	2/1/2015	170,600	341,100	426,400
		(17)	2/1/2015	170,600	341,100	426,400
Office of Finance	John D. Fisk	(18)	2/1/2015	208,800	278,400	348,000
		(19)	2/1/2015	208,800	278,400	348,000

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(1) Represents estimate of annual short-term incentive compensation for January 1, 2015 through December 31, 2015, under the FHLBank of Boston 2015 executive incentive compensation plan. The estimated future payout for the long-term component of the 2015 executive incentive compensation plan is based, in part, on the results of the short-term component at year-end 2015. The actual future payout for the long-term component will then be interpolated between threshold and target, or between target and excess, depending on the actual results of achievement for the long-term component goal as determined at year-end 2017. If threshold is not achieved, there will not be a payout.

	Estimated Possible Payouts under Non-Equity Incentive Plan Awards		
If short-term component results in:	**Threshold**	**Target**	**Excess**
Threshold	$ 91,663	$ 183,325	$ 274,988
Target	137,494	274,988	412,481
Excess	183,325	366,650	549,975

(2) Payment of each deferred incentive award installment is contingent on the CEO meeting the required criteria and the FHLBank of New York meeting the stated payment criteria. For the 2015 Plan, the first year payout is 50% of the award amount and then 33 1/3% of the remaining 50% in each deferral installment over the next three years based on whether or not the stated payment criteria were met.
(3) Payment of each deferred incentive award installment is contingent on the CEO meeting the required criteria and the FHLBank of Pittsburgh meeting the stated payment criteria. For the 2015 Plan, the first year payout is 50% of the award amount and then 33 1/3% of the remaining 50% in each deferral installment over the next three years based on whether or not the stated payment criteria were met. The deferred amount shown for each of the years 2017, 2018, and 2019 is 125% of the deferred amount if both MV/CS and retained earnings levels are maintained, which we have assumed is met in each year for purposes of this calculation.
(4) Represents threshold, target, and maximum payment opportunities under FHLBank of Atlanta's incentive compensation plan for the fiscal year ended December 31, 2015. Fifty percent of the actual amount earned is subject to mandatory deferral.
(5) Represents the estimated annual payout under the FHLBank of Cincinnati's 2015 incentive plan for the period of January 1, 2015 through December 31, 2015, which is 50% of the award opportunity.

(6) Represents the estimated mandatorily deferred payout under the FHLBank of Cincinnati's 2015 incentive plan for the period of January 1, 2016 through December 31, 2018, which is 50% of the award opportunity. The final value of the deferred award can be increased, decreased, or remain the same based on the goal achievement level during the three-year deferral period.

(7) Represents the estimated payout range of the annual portion of the incentive compensation plan for January 1, 2015 through December 31, 2015 for the FHLBank of Indianapolis. There is no guaranteed payout under the deferred award provisions of the incentive plan. Therefore, the minimum that could be paid out under this plan is $0.

(8) Represents the estimated payout under the deferred portion of the incentive compensation plan for the FHLBank of Indianapolis; payout is based upon the annual portion of the incentive compensation plan and is further dependent on attaining the minimum threshold over the 3-year deferral period (2016-2018).

(9) Represents the potential annual award payouts under FHLBank of Chicago's president and executive team incentive compensation plan for the period from January 1, 2015 through December 31, 2015. Under this plan, 50% of the total incentive award is an annual award vested at the end of a one-year performance period.

(10) Represents the deferred award granted under FHLBank of Chicago's president and executive team incentive compensation plan for the period from January 1, 2016 through December 31, 2018 based on actual performance for 2015. Under this plan, 50% of the total incentive award is a deferred award which will vest at the end of a three-year deferral period (subject to adjustment based upon achievement of certain performance goals).

(11) Represents the estimated payout range of the annual short-term incentive compensation plan for January 1, 2015 through December 31, 2015.

(12) Represents estimate of deferred incentive compensation for the FHLBank of Des Moines for the four-year performance cycle beginning January 1, 2015 and ending December 31, 2018.

(13) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Wilson, former FHLBank of Seattle CEO, became the President of the FHLBank of Des Moines. The potential payout for the 2015 Incentive Plan for Mr. Wilson is based on eligible earnings during his employment with the FHLBank of Des Moines from June 1, 2015 through December 31, 2015.

(14) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Wilson, former FHLBank of Seattle CEO, became the President of the FHLBank of Des Moines. Represents estimate of deferred incentive compensation for the FHLBank of Des Moines for the four-year performance cycle beginning January 1, 2015 and ending December 31, 2018.

(15) Represents the estimated payout range of the long-term incentive compensation plan for the FHLBank of Topeka for the three-year performance period beginning January 1, 2015 through December 31, 2017. Payments are calculated using the base salary in effect on January 1 at the beginning of the performance period. Awards, if any, under this plans are payable in the year following the end of the three-year performance period.

(16) Represents the estimated payout range of the annual short-term incentive compensation plan for January 1, 2015 through December 31, 2015 for the FHLBank of San Francisco. Actual amounts earned under the short-term incentive compensation plan for this period are included in Table S-1 - FHLBank Presidents and/or CEOs and Office of Finance CEO Summary Compensation.

(17) Represents the estimated payout range of the long-term incentive compensation for the three-year performance cycle beginning January 1, 2015 and ending December 31, 2017.

(18) Represents estimated payout under the Executive Incentive Plan, approved by the Office of Finance Board of Directors in 2015, which has two components: 50% annual and 50% deferred. These amounts represent the award opportunity for the annual portion payable in 2016.

(19) Represents estimated payout under the Executive Incentive Plan, approved by the Office of Finance Board of Directors in 2015, which has two components: 50% annual and 50% deferred. 50% of the deferred portion is payable in 2017 subject to Office of Finance Board of Directors approval and the remaining 50% is payable in 2018 subject to Office of Finance Board of Directors approval.

Table S-4 - Pension Benefits at December 31, 2015
(whole dollars)

FHLBank	President/CEO Name	Plan Name*	Number of Years Credited Service	Present Value of Accumulated Benefit	Payments During 2015
Boston	Edward A. Hjerpe III(1)	Pentegra DBP	23.7	$ 1,277,000	$ —
		BEP	6.5	846,000	—
New York	José R. González(2)	Pentegra DBP	1.8	110,000	—
Pittsburgh	Winthrop Watson(3)	Pentegra DBP	5.6	247,000	—
		SERP	6.1	738,000	—
Atlanta	W. Wesley McMullan(4)	Pentegra DBP	27.8	1,529,000	—
		BEP	27.8	5,549,000	—
Cincinnati	Andrew S. Howell(5)	Pentegra DBP	25.5	1,665,000	—
		BEP	25.5	4,648,000	—
Indianapolis	Cindy L. Konich(6)	Pentegra DBP	31.0	2,057,000	—
		SERP	31.0	7,753,000	—
Chicago	Matthew R. Feldman(7)	Pentegra DBP	11.8	875,000	—
		BEP	11.8	2,893,000	—
Des Moines	Richard S. Swanson(8)	Pentegra DBP	8.6	867,000	—
		BEP	8.6	2,450,000	—
	Michael L. Wilson(8)	Pentegra DBP	21.0	1,432,000	—
		BEP	4.0	733,000	—
Dallas	Sanjay Bhasin(9)	Pentegra DBP	11.1	448,000	—
Topeka	Andrew J. Jetter(10)	Pentegra DBP	27.6	1,810,000	—
		BEP	27.6	5,378,000	—
San Francisco	Dean Schultz(11)	BEP	30.8	3,402,317	—
		SERP	13.0	1,894,905	—
		CBP	30.8	590,221	—
		FIRF	11.0	476,997	—
		DCP	30.8	74,886	—
Office of Finance	John D. Fisk(12)	Pentegra DBP	11.1	767,000	—
		SERP	11.1	2,145,000	—

* Pentegra DBP = Pentegra Defined Benefit Plan for Financial Institutions
BEP = Benefit Equalization Plan
SERP = Supplemental Executive Retirement Plan
FIRF = Financial Institutions Retirement Fund
CBP = Cash Balance Plan
DCP = Deferred Compensation Plan

(1) Boston- Formula: 1.5% × high five-year average compensation × credited years of service, subject to a maximum annual benefit amount not to exceed 80% of high five-year average compensation.
Compensation for the Pension BEP is the highest five-year compensation (salary and incentive) paid in the year. Compensation for Pentegra DBP is the highest five-year compensation, defined as base salary excluding the participant's voluntary contribution to the Thrift BEP, subject to the applicable IRS limits on annual earnings ($265,000 for 2015).
The regular form of retirement benefits is a straight-life annuity with a 12 times initial death benefit feature.
Mr. Hjerpe's credited years of service for the Pentegra DBP includes 16.6 years of service at the FHLBank of Boston and 7.1 years of service at a previous employer that participated in the Pentegra DBP.

(2) New York- Formula: 2.0% of a participant's highest consecutive 5-year average earnings (as opposed to consecutive 3-year average earnings as previously provided to grandfathered participants), multiplied by the participant's years of benefit service, not to exceed 30 years. Earnings are defined as base salary plus short-term incentives, and overtime, subject to the annual Internal Revenue Code limit. The normal form of payment is a life annuity (i.e., an annuity paid until the death of the participant), as opposed to a guaranteed twelve-year payout as previously provided to grandfathered participants. In addition, to the non-grandfathered participants, the cost of living adjustments ("COLAs") are no longer provided on future accruals (as opposed to a 1% simple interest COLA beginning at age 66 as previously provided).

(3) Pittsburgh- Formula: 1.5% × years of benefit service × high five-year average compensation.
Compensation covered for the Pentegra Defined Benefit Plan includes annual base salary, subject to IRS limitations. Compensation covered for the SERP includes annual base salary and annual incentive compensation, without regard to IRS limitations.
The regular form of retirement benefits provides a single life annuity; a lump sum option is also available.

(4) Atlanta- The "Present Value of Accumulated Benefit" is the present value of the annual pension benefit that was earned as of December 31, 2015, assuming retirement at age 65. Benefits under the Pentegra DBP were calculated using a 4.34% discount rate; 4.48% was used to calculate benefits under the BEP.

(5) Cincinnati- For employees hired prior to January 1, 2006: Formula: 2.5% × years of benefit service × highest three-year average compensation.
Compensation is defined as base salary, excess accrued vacation benefits, and annual incentive compensation, and excludes any long-term or deferred incentive payments.
The regular form of retirement benefits is a single-life annuity including a lump-sum retirement death benefit.

(6) Indianapolis- Formula: 2.5% × years of benefit service × high three-year average compensation plus, at age 66, an annual retiree cost of living adjustment of three percent without regard to the IRS limits.

- Eligible compensation includes salary (before any employee contributions to tax qualified plans), STI Plan, bonus (including annual awards under the Incentive Plan), and any other compensation that is reflected on the IRS Form W-2 (but not including LTI Plan payments or any compensation deferred from a prior year, including deferred awards under the Incentive Plan).
- The regular form of retirement benefits provides for a lump sum payment or annual installments up to 20 years or a combination of lump sum and annual payments.
- Benefit payments commencing before age 65 are reduced by applying an early retirement factor based on the participant's age when payments begin. The allowance payable at age 65 would be reduced by 3% for each year under age 65. If the sum of the age and years of vesting service at termination of employment is at least 70, the retirement allowance would be reduced by 1.5% for each year under age 65.

(7) Chicago- Formula: 2.25% × the number of years credited service × highest five-year compensation.
Compensation is the average annual salary (base and short-term incentive compensation) for the five consecutive years of highest salary. At December 31, 2015, the additional present value of accrued benefit due Mr. Feldman under section (7)(b)(vi) of his employment agreement is $1,471,000. The regular form of retirement benefits is an annuity or a lump-sum retirement death benefit.

(8) Des Moines- Formula: 2.25% × the number of years credited service × highest three consecutive year's average compensation. Average compensation is defined as the total taxable compensation as reported on the IRS Form W-2.

(9) Dallas- Subject to the exception noted below for Mr. Bhasin, the annual benefit payable under the Pentegra DB Plan is calculated using the following formula: (3% × years of service credited prior to July 1, 2003 × high 36-month average compensation earned prior to July 1, 2015 plus (2% × years of service credited on or after July 1, 2003 × high 36-month average compensation for the entire period of participation in the Pentegra DB Plan).
The pension plan limits the maximum years of benefit service to 30 years. Compensation covered by the plan includes taxable compensation as reported on Mr. Bhasin's W-2 (exclusive of any compensation deferred from a prior year) plus any pre-tax contributions to the FHLBank of Dallas' Section 401(k) plan and/or Section 125 cafeteria plan, subject to the 2015 IRS limitation of $265,000 per year. While employed by the Federal Home Loan Bank of Chicago, Mr. Bhasin accrued benefits at a service accrual rate of 2.25%.
The regular form of retirement benefit is a single life annuity that includes a lump-sum death benefit. The normal retirement age is 65, but Mr. Bhasin is eligible to receive an unreduced retirement benefit beginning at age 62. The FHLBank of Dallas does not have a supplemental defined benefit plan that covers compensation in excess of the IRS maximum limit; accordingly, Table S-4 reflects the estimated pension benefits payable to Mr. Bhasin based solely on the IRS compensation limit as his compensation exceeded such limit.

(10) Topeka- Formula: Starting September 2003 Pentegra Defined Plan Benefit = 2.0% × years of benefit service (not to exceed 30 years) × high three-year average compensation. Benefit service begins one year after employment.
Prior to September 2003 FIRF Benefit = 2.25% × years of benefit service (not to exceed 30 years) × high three-year average compensation. Benefit service begins one year after employment.
Compensation covered includes annual base salary plus incentive compensation subject to the 2015 annual IRS limitation of $265,000.
The regular form of retirement benefits provides a single life annuity, a lump sum payment or other additional payment options.

(11) San Francisco- Benefit Equalization Plan
The Benefit Equalization Plan is an unfunded and non-tax-qualified plan that is designed to restore retirement benefits lost under the Cash Balance Plan and the FHLBank of San Francisco's Savings Plan (a defined contribution plan) because of compensation and benefits limitations imposed on the Cash Balance Plan and the Savings Plan under the Internal Revenue Code (IRC). An employee's benefits that would have been credited under the Cash Balance Plan but for the limitations imposed on the plans under the IRC are credited as supplemental cash balance benefits under the BEP and the credits accrue interest at an annual rate of 6% until distributed. The amounts credited or accrued under the BEP vest according to the corresponding provisions of the Cash Balance Plan and the Savings Plan.
Supplemental Executive Retirement Plan
The SERP is an unfunded and non-tax-qualified retirement benefit plan that provides a cash balance benefit to the FHLBank of San Francisco's senior officers that is in addition to the Cash Balance Plan benefits. The SERP supplements the Cash Balance Plan benefits to provide a competitive postretirement compensation package that is intended to help the FHLBank of San Francisco attract and retain key senior officers who are critical to the success of the FHLBank of San Francisco.
Cash Balance Plan and the Financial Institutions Retirement Fund
The FHLBank of San Francisco began offering benefits under the Cash Balance Plan (CBP) on January 1, 1996. The CBP is a tax-qualified defined benefit pension plan that covers employees who have completed six months of service, including the president. Each year, eligible employees accrue benefits equal to 6% of their total annual compensation (which includes base salary and short-term cash incentive compensation) plus interest equal to 6% of their account balances accrued through the prior year, referred to as the annual benefit component of the CBP.
The benefits under the CBP annual benefit component are fully vested after an employee completes three years of service. Vested amounts are generally payable in a lump sum or in an annuity when the employee leaves the FHLBank of San Francisco.
Prior to offering benefits under the CBP, the FHLBank of San Francisco participated in the Financial Institutions Retirement Fund (FIRF). The FIRF is a multiple-employer tax-qualified defined benefit pension plan. The FHLBank of San Francisco withdrew from the FIRF on December 31, 1995 at which time benefits earned under the FIRF were fully vested and the value of those benefits was then frozen. As of December 31, 1995, the FHLBank of San Francisco calculated each participant's FIRF benefit based on the participant's then-highest three consecutive years' average pay multiplied by the participant's years of service multiplied by two percent, referred to as the frozen FIRF benefit. Upon retirement, participants will be eligible to receive their frozen FIRF benefits.
In addition, to preserve the value of the participant's frozen FIRF benefit, the FHLBank of San Francisco maintains the ratio of each participant's frozen FIRF age 65 annuity to the participant's highest three consecutive years' average pay as of December 31, 1995 (annuity ratio), which is referred to as the net transition benefit component of the CBP. Upon retirement, each participant with a frozen FIRF benefit will receive a net transition benefit under the CBP that equals his or her highest three consecutive years' average pay at retirement multiplied by his or her annuity ratio minus the frozen FIRF benefit.
Deferred Compensation Plan
The FHLBank of San Francisco's Deferred Compensation Plan is an unfunded and non-tax-qualified plan, consisting of three components: (1) employee deferral of current compensation; (2) make-up matching contributions that would have been made by the FHLBank of San Francisco under the Savings Plan had the base salary compensation not been deferred; and, (3) make-up pension benefits that would have been earned under the Cash Balance Plan had any amount of total annual compensation (base salary and short-term cash incentive compensation) not been deferred.

(12) Office of Finance- Formula: Starting July 2011 - 2.0% × years of benefit service × high three-year average compensation. Benefits earned from April 2003 to June 2011 are frozen under the prior benefit formula of 2.25%.

Table S-5 - Non-Qualified Deferred Compensation for 2015
(whole dollars)

FHLBank	President/CEO Name	President/CEO Contributions	FHLBank Contributions	Aggregate Withdrawals/ Distributions	Aggregate Earnings	Aggregate Balance at 12/31/15
Boston	Edward A. Hjerpe III	$ 36,321	$ 56,743	$ —	$ (578)	$ 517,023
Pittsburgh	Winthrop Watson	286,620	57,217	—	(9,712)	1,598,295
Atlanta	W. Wesley McMullan	363,906	30,303	—	60,048	1,731,702
Chicago	Matthew R. Feldman	54,251	—	—	4,086	302,545
Des Moines	Richard S. Swanson	357,478	44,749	—	13,888	1,560,289
	Michael L. Wilson(1)	37,800	25,200	—	(9,226)	256,852
Dallas	Sanjay Bhasin	38,250	21,994	—	(731)	83,810
Topeka	Andrew J. Jetter	77,890	35,764	—	109,413	1,771,667
Seattle	Michael L. Wilson(2)	24,268	9,707	—	6,268	—
Office of Finance	John D. Fisk	62,209	62,810	—	(45,440)	1,944,905

(1) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Wilson, former FHLBank of Seattle CEO, became the President of the FHLBank of Des Moines. These amounts reflect Mr. Wilson's non-qualified deferred compensation at the FHLBank of Des Moines since June 1, 2015.

(2) The FHLBank of Seattle ceased operations on May 31, 2015. These amounts reflect Mr. Wilson's non-qualified deferred compensation at the FHLBank of Seattle for the five months ended May 31, 2015, prior to the plan being assumed by the FHLBank of Des Moines.

Office of Finance CEO 2015 Compensation Discussion and Analysis

Compensation Philosophy and Objectives.

The Human Resources and Compensation Committee (HR Committee) serves as the compensation committee of the Office of Finance Board of Directors. The compensation program for the Office of Finance CEO is designed to provide a flexible and market-based approach to compensation that attracts, motivates, and retains an executive with the skills and expertise necessary to enable the Office of Finance to meet or exceed its business goals. To achieve these objectives, the Office of Finance compensates the CEO using a total compensation program approach that combines base salary, short- and long-term variable (incentive-based) compensation, retirement benefits, and modest fringe benefits. The objectives of the compensation program are to establish and communicate short- and long-term standards of performance for the successful achievement of the Office of Finance's mission and to recognize, motivate, and reward the CEO commensurate with his contributions.

The Office of Finance Board of Directors believes that its compensation philosophy is effective in attracting, retaining, and motivating a highly qualified individual. The Office of Finance Board of Directors reviews annually the compensation program to ensure that it is consistent with and supports the Office of Finance's business strategies and objectives. The FHFA's five guiding principles for sound incentive compensation practices were incorporated into the development, implementation, and review of compensation policies and practices for the Office of Finance CEO in 2015.

Regulatory Oversight of Executive Compensation.

The Director of the FHFA has the authority to review the compensation arrangements of executive officers of the FHLBanks and the Office of Finance and to prohibit an FHLBank or the Office of Finance from providing compensation to any executive officer that the Director of the FHFA determines is not reasonable and comparable with compensation for employment in other similar businesses involving similar duties and responsibilities. The Director of the FHFA also has the authority to approve, in advance, agreements or contracts of executive officers that provide compensation in connection with termination of employment.

Competition and Compensation Benchmarking.

Role of the HR Committee and the Office of Finance Board of Directors in Setting Executive Compensation. The HR Committee and the Office of Finance Board of Directors align the executive compensation program with the Office of Finance's business objectives and focus the CEO's efforts on fulfilling these goals. The HR Committee reviews the CEO's performance and researches and recommends the CEO salary to the Office of Finance Board of Directors. The percentage of salary increase that will apply to a base pay merit adjustment for each year is recommended by the HR Committee for approval by the Office of Finance Board of Directors. The retirement benefit plans that are offered, and any changes to those plans from year to year, are approved by the Office of Finance Board of Directors after a recommendation by the HR Committee. The HR Committee also recommends the goals, payout, and qualifications for the annual Executive Incentive Plan for approval by the Office of Finance Board of Directors.

Role of Compensation Consultant in Setting Executive Compensation. The salary and benefit benchmarks used by the Office of Finance to establish reasonable and competitive compensation for its employees are the competitor groups established by Aon Consulting and its affiliate, McLagan Partners, as presented in Table S-6. The benchmarking analysis included the following competitor positions: the FHLBank Presidents; the head of debt capital markets for certain commercial banks; the proxy data for Fannie Mae and Freddie Mac; and the publicly available data for the Federal Farm Credit Banks Funding Corporation.

Table S-6 - Benchmarking Institutions

Australia & New Zealand Banking Group	Federal Home Loan Bank of New York	RBS Markets & International Banking
BBVA Compass	Federal Home Loan Bank of Pittsburgh	RBS/Citizens Bank
BMO Capital Markets	Federal Home Loan Bank of San Francisco	Rabobank Nederland
BNP Paribas	Federal Home Loan Bank of Seattle	Regions Financial Corporation
BTG Pactual	Federal Home Loan Bank of Topeka	Royal Bank of Canada
Banco Santander	Fifth Third Bank	Santander Bank, NA
Bank of Tokyo - Mitsubishi UFJ	Freddie Mac	Societe Generale
Bayerische Landesbank	GE Capital	Standard Chartered Bank
CIBC World Markets	HSBC Global Banking and Markets	State Street Bank & Trust Company
Commerzbank	ING	SunTrust Banks
Crédit Agricole CIB	KeyCorp	TD Securities
DZ Bank	Lloyds Banking Group	The Bank Of New York Mellon
Fannie Mae	Macquarie Bank	The Bank of Nova Scotia
Federal Home Loan Bank of Atlanta	Mitsubishi Securities	The Federal Farm Credit Banks Funding Corporation
Federal Home Loan Bank of Boston	Mizuho Bank	U.S. Bancorp
Federal Home Loan Bank of Chicago	Natixis	UniCredit
Federal Home Loan Bank of Cincinnati	National Australia Bank	Wells Fargo Bank
Federal Home Loan Bank of Dallas	Nomura Securities	Westpac Banking Corporation
Federal Home Loan Bank of Des Moines	Nord/LB	
Federal Home Loan Bank of Indianapolis	PNC Bank	

Elements of Total Compensation Program.

Base Salary. Base salary is a key component of the Office of Finance's total CEO compensation program. In setting the base salary for the CEO, the Office of Finance Board of Directors has discretion to consider a wide range of factors, including the CEO's individual performance, the performance of the Office of Finance overall, the CEO's tenure and the amount of the CEO base salary relative to the base salaries paid to executives in similar positions in the 50th percentile of executive salaries in the Office of Finance's peer groups. The Office of Finance Board of Directors also considers the amount and relative percentage of the CEO's total compensation that is derived from base salary.

The Office of Finance Board of Directors approved, effective December 9, 2014, a 4% base salary increase for 2015, resulting in an annual base salary of $696,000.

Executive Incentive Plan. The Office of Finance's CEO 2015 Executive Incentive Plan is an annual cash-based incentive compensation plan designed to promote and reward high levels of performance for accomplishing Office of Finance Board of Directors-approved goals. The annual goals reflect desired performance focused on the Office of Finance mission. Each goal is assigned a weight reflecting its relative importance and potential effect on the Office of Finance's strategic initiatives. The CEO is eligible to receive 50% of the combined plan award as a cash payment and 50% of the award is deferred for two years.

The Office of Finance Board of Directors approved three goals consistent with the 2015 Executive Incentive Plan that are intended to reinforce the strategic plan actions and value delivered by the Office of Finance to support the mission of the FHLBanks.

- Customers: 1) Office of Finance Performance Survey; 2) Office of Finance Support for the Des Moines and Seattle Merger (50% weight) - Office of Finance Performance Survey consisted of serving the needs of the FHLBanks individually and collectively. Bank Merger consisted of ensuring the merging Banks are supported with minimal disruption to the other Banks.

- Strategic Plan: 1) Funding and Market Access; 2) People (25% weight) - Funding and market access consisted of ensuring that management and the Board are engaged in the major structural changes caused by regulatory and economic factor's impacting dealers and investors in the agency debt market. People consisted of ensuring the Office of Finance continues to cultivate a high performing organization with engaged staff and management bench strength.

- Operations (25% weight) - Consisted of continuing to enhance the Office of Finance's Risk Management program and Internal Control environment.

The authorization for payment of awards is provided following a review of the year-end performance results by the Office of Finance Board of Directors. The cash incentive payments are determined based on the actual performance in comparison with the performance levels established for each goal. If actual performance falls below the threshold level of performance, no payment is made for that goal. If actual performance exceeds the maximum level, only the value assigned as the performance maximum is paid. When actual performance falls between the assigned threshold, target and maximum performance levels, an interpolation is calculated for that goal. The achievement level for each goal is then multiplied by the corresponding incentive weight assigned to that goal and the results for each goal are summed to arrive at the final incentive award payable to the Office of Finance's CEO.

The CEO is assigned a combined incentive award opportunity, stated as a percentage of base salary, which corresponds to the level of organizational responsibility and ability to contribute to and influence overall Office of Finance performance. At its December 9, 2015 meeting, the Office of Finance Board of Directors authorized an Executive Incentive Plan award of $614,776 (88.33%) for John Fisk, of which 50%, $307,388, was paid in 2016 and 50% is deferred over two years. The deferred award expected to be paid in 2017 is $153,694, and the deferred award expected to be paid in 2018 is $153,694. The deferred awards will be reviewed prior to payment based on established criteria by the Office of Finance Board of Directors.

Table S-7 - 2015 Executive Incentive Plan Results
(whole dollars)

Goal	Weight	Overall Award Level	Total Award
Customers	50%	Between target and maximum	$ 307,388
Strategic Plan	25%	Close to maximum	153,694
Operations	25%	Close to maximum	153,694
Total	100%		$ 614,776

On December 9, 2015, the Office of Finance Board of Directors approved a deferred award payment to John Fisk of $312,214. The award was comprised of two components, an award of $160,000, which is the deferred component of the 2014 Executive Incentive Plan (25% deferral of the 2014 Executive Incentive Plan) and an award of $152,214, which is the deferred component of the 2013 Executive Incentive Plan (25% deferral of the 2013 Executive Incentive Plan). The Office of Finance Board of Directors approved the payment, which was determined as follows:

Table S-8 - 2014 Executive Incentive Plan Deferred Component
(whole dollars)

Goal	Weight	Overall Award Level	Total Award
Customers	45%	Close to maximum	$ 72,000
Strategic Plan	20%	Close to maximum	32,000
Operations	35%	Close to maximum	56,000
Total	100%		$ 160,000

Table S-9 - 2013 Executive Incentive Plan Deferred Component
(whole dollars)

Goal	Weight	Overall Award Level	Total Award
Customers	45%	Between target and maximum	$ 63,864
Customers	20%	Close to maximum	31,850
Operations	35%	Close to maximum	56,500
Total	100%		$ 152,214

Retirement Benefits. The Office of Finance maintains a comprehensive retirement program for the CEO comprised of a combination of two IRS qualified plans and two non-qualified plans.

- Qualified Defined Benefit Pension Plan - The Pentegra Defined Benefit Plan is a funded tax-qualified plan that is maintained on a non-contributory basis, i.e., no employee contributions. Participants' pension benefits are 100% vested upon completion of six years of service. The pension benefits payable under the Pentegra Defined Benefit Plan are determined under a pre-established formula that provides a single life annuity payable monthly at normal retirement (age 65), or other actuarially equivalent forms of benefit payments, including an early retirement option. The benefit formula through June 30, 2011 was 2.25% for each year of benefit service multiplied by the highest three-year average compensation. As of July 1, 2011, the benefit formula was reduced to 2.0% for each year of benefit service multiplied by the highest three-year average compensation.

- Non-qualified Defined Benefit Pension Plan - The CEO is eligible to participate in the Supplemental Retirement Plan, an unfunded, non-qualified pension plan that mirrors the Pentegra Defined Benefit Plan in all material respects. In the event that benefits payable from the Pentegra Defined Benefit Plan have been reduced or otherwise limited by IRS provision, the executive's lost benefits are payable under the terms of the Supplemental Retirement Plan. Because this plan is a non-qualified plan, the benefits received from this plan do not receive the same funding protection associated with the qualified plan.

- Qualified Defined Contribution Plan - The Pentegra Defined Contribution Plan for Financial Institutions is a tax-qualified defined contribution plan to which the Office of Finance makes tenure-based matching contributions. The matching contribution begins upon completion of one year of employment and subsequently increases based on length of employment to a maximum of six percent of base salary. Under the Pentegra Defined Contribution Plan, a participant may elect to contribute up to 50% of base salary on either a before-tax, i.e., 401(k), or after-tax basis. The plan permits participants to self-direct investment elections into one or more investment funds, which may be changed daily by the participants. A participant may withdraw vested account balances while employed, subject to certain IRS and plan limitations.

- Non-qualified Defined Contribution Plan - The CEO is eligible to participate in the Supplemental Thrift Plan, an unfunded, non-qualified, contributory pension plan that mirrors the Pentegra Defined Contribution Plan in all material respects. This plan restores benefits that participants would have received absent IRS limits on contributions to the Pentegra Defined Contribution Plan. Under the Supplemental Thrift Plan, participants may elect to contribute up to 50% of base salary and up to 100% of incentive compensation on a pre-tax basis. As in the Pentegra Defined Contribution Plan, the employer match in the Supplemental Thrift Plan is tenure-based with a six percent maximum. This plan permits participants to self-direct investment elections into a choice of ten investment funds.

Perquisites. The perquisites provided by the Office of Finance represent a small fraction of the CEO's total compensation and are provided in accordance with market practices for executives in similar positions and with similar responsibilities. During 2015, the CEO was provided with an Office of Finance-owned vehicle for his business and personal use. The operating expenses associated with the vehicle were also provided. The CEO's personal use of the Office of Finance-owned vehicle, including use for the daily commute to and from work, is reported as a taxable fringe benefit.

Financial Counseling. The CEO is eligible for an annual reimbursement of personal financial counseling not to exceed $10,000. This benefit was not utilized in 2015.

Director Compensation

In accordance with the regulations of the FHFA under the FHLBank Act, the FHLBanks have established formal policies governing the compensation and travel reimbursement provided to their directors. The goal of the policies is to compensate members of the board of directors for work performed on behalf of the FHLBanks. Under these policies, compensation consists of per-meeting fees. The meeting fees compensate directors for:

- time spent reviewing materials sent to them on a periodic basis by the FHLBanks;
- preparation for meetings;
- participation in any other activities for the FHLBanks; and
- actual time spent attending the meetings of the board or its committee.

Directors are also reimbursed for reasonable FHLBank-related travel expenses, which are not included in Table S-10 - Chair and Vice-Chair Director Compensation for 2015.

An FHFA rule allows each FHLBank to pay its directors reasonable compensation and expenses, subject to the authority of the Director of the FHFA to object to, and to prohibit prospectively, compensation and/or expenses that the Director of the FHFA determines are not reasonable. (See *FHLBank Directors* and *FHLBanks Office of Finance Board of Directors* within this section for biographies.) The following information has been provided for each FHLBank primarily based on the information disclosed in its annual report on SEC Form 10-K for the year ended December 31, 2015.

Table S-10 - Chair and Vice-Chair Director Compensation for 2015
(whole dollars)

FHLBank	Director Name	Position	Fees Earned or Paid in Cash	All Other Compensation	Total
Boston	Andrew J. Calamare	Chair	$ 85,000	$ —	$ 85,000
	Steven A. Closson	Vice-Chair	72,500	—	72,500
New York	Michael M. Horn	Chair	105,000	—	105,000
	James W. Fulmer	Vice-Chair	90,000	—	90,000
Pittsburgh	Patrick A. Bond	Chair	112,500	27	112,527
	John K. Darr	Vice-Chair	92,500	27	92,527
Atlanta	F. Gary Garczynski	Chair	95,000	1,318	96,318
	Richard A. Whaley	Vice-Chair	90,000	1,539	91,539
Cincinnati	Donald J. Mullineaux	Chair	105,000	—	105,000
	William J. Small	Vice-Chair	95,000	—	95,000
Indianapolis	James D. MacPhee	Chair	115,000	—	115,000
	Michael J. Hannigan, Jr.	Vice-Chair	92,500	—	92,500
Chicago	Steven F. Rosenbaum	Chair	90,000	—	90,000
	William W. Sennholz	Vice-Chair	80,000	—	80,000
Des Moines	Dale E. Oberkfell	Chair	145,000	—	145,000
	William V. Humphreys(1)	Vice-Chair	52,500	—	52,500
	Eric A. Hardmeyer	Vice-Chair	109,167	—	109,167
Dallas	Joseph F. Quinlan, Jr.	Chair	87,500	—	87,500
	Robert M. Rigby	Vice-Chair	82,500	—	82,500
Topeka	G. Bridger Cox	Chair	105,000	—	105,000
	Robert E. Caldwell, II	Vice-Chair	95,000	—	95,000
San Francisco	John F. Luikart	Chair	100,000	—	100,000
	Douglas H. (Tad) Lowrey	Vice-Chair	95,000	—	95,000
Seattle(2)	William V. Humphreys	Chair	29,167	—	29,167
	Gordon Zimmerman	Vice-Chair	16,250	—	16,250
Office of Finance(3)	Jonathan A. Scott	Chair	148,720	—	148,720

(1) In connection with the FHLBank of Des Moines and FHLBank of Seattle merger, Mr. Humphreys, former FHLBank of Seattle Chair, became the Vice-Chair of the FHLBank of Des Moines. These amounts reflect Mr. Humphreys' director compensation as the Vice-Chair of the FHLBank of Des Moines since June 1, 2015.

(2) The FHLBank of Seattle ceased operations on May 31, 2015. These amounts reflect Mr. Humphreys' and Mr. Zimmerman's director compensation at the FHLBank of Seattle for the five months ended May 31, 2015.

(3) Dean Schultz, Chief Executive Officer and President of the FHLBank of San Francisco, serves as the Vice-Chair of the Office of Finance board of directors. Per FHFA regulation, an FHLBank president shall not receive any additional compensation or reimbursement as a result of his service as a director of the Office of Finance board of directors.

Individual Federal Home Loan Bank Selected Financial Data and Financial Ratios

The following individual Federal Home Loan Bank (FHLBank) selected financial data and financial ratios are provided as a convenience to the reader. Effective May 31, 2015, the FHLBank of Seattle merged with and into the FHLBank of Des Moines, with the FHLBank of Des Moines surviving the merger as the continuing FHLBank. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* to the accompanying combined financial statements for additional information regarding the merger.) As a result of the merger, the selected financial data and financial ratios for the FHLBank of Seattle are not presented in the following table.

Please refer to *Explanatory Statement about Federal Home Loan Banks Combined Financial Report*, which discusses the independent management and operation of the FHLBanks; identifies the availability of other information about the FHLBanks; and describes where to find the periodic reports and other information filed by each FHLBank with the SEC.

Individual FHLBank Selected Financial Data and Financial Ratios

(dollars in millions)	Boston	New York	Pittsburgh
Selected Statement of Condition Data(1)			
At December 31, 2015			
Assets			
Investments(2)	$ 18,019	$ 26,167	$ 16,144
Advances	36,076	93,874	74,505
Mortgage loans held for portfolio	3,583	2,525	3,093
Allowance for credit losses on mortgage loans	(1)	—	(6)
Total assets	58,109	123,248	96,336
Consolidated obligations(3)			
Discount notes	28,479	46,850	42,277
Bonds	25,433	67,726	48,606
Total consolidated obligations	53,912	114,576	90,883
Mandatorily redeemable capital stock	42	19	6
Subordinated notes(4)	—	—	—
Total capital			
Capital stock(5)	2,337	5,585	3,540
Additional capital from merger(6)	—	—	—
Retained earnings	1,129	1,270	881
Accumulated other comprehensive income (loss)	(443)	(136)	80
Total capital	3,023	6,719	4,501
Asset composition (as a percentage of the individual FHLBank's total assets)			
Investments(2)	31.0%	21.2%	16.8%
Advances	62.1%	76.2%	77.3%
Mortgage loans held for portfolio, net	6.2%	2.0%	3.2%
Total retained earnings as a percentage of FHLBank's total assets	1.9%	1.0%	0.9%
FHLBank's total assets as a percentage of FHLBank System's total assets	6.0%	12.7%	9.9%
At December 31, 2014			
Assets			
Investments(2)	$ 16,879	$ 25,201	$ 16,529
Advances	33,482	98,797	63,408
Mortgage loans held for portfolio	3,486	2,134	3,131
Allowance for credit losses on mortgage loans	(2)	(5)	(7)
Total assets	55,107	132,825	85,677
Consolidated obligations(3)			
Discount notes	25,309	50,044	37,058
Bonds	25,506	73,535	43,715
Total consolidated obligations	50,815	123,579	80,773
Mandatorily redeemable capital stock	299	19	1
Subordinated notes(4)	—	—	—
Total capital			
Capital stock(5)	2,413	5,580	3,041
Retained earnings	902	1,083	838
Accumulated other comprehensive income (loss)	(437)	(137)	123
Total capital	2,878	6,526	4,002
Asset composition (as a percentage of the individual FHLBank's total assets)			
Investments(2)	30.6%	19.0%	19.3%
Advances	60.8%	74.4%	74.0%
Mortgage loans held for portfolio, net	6.3%	1.6%	3.6%
Total retained earnings as a percentage of individual FHLBank's total assets	1.6%	0.8%	1.0%
FHLBank's total assets as a percentage of FHLBank System's total assets	6.0%	14.5%	9.4%

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(1) The sum or recalculation of individual FHLBank amounts may not agree or may not be recalculated from the Combined Statement of Condition amounts due to combining adjustments.

(2) Investments consist of interest-bearing deposits, deposits with other FHLBanks, securities purchased under agreements to resell, federal funds sold, trading securities, available-for-sale securities, and held-to-maturity securities.

(3) See *Financial Discussion and Analysis - Combined Results of Operations - Interbank Transfers of Consolidated Bonds and Their Effect on Combined Net Income*.

(4) The subordinated notes outstanding, issued by the FHLBank of Chicago, mature on June 13, 2016. The subordinated notes are not obligations of, and are not guaranteed by, the U.S. government or any of the FHLBanks other than the FHLBank of Chicago. (See *Note 16 - Subordinated Notes* to the accompanying combined financial statements for additional information on subordinated notes.)

Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 35,175	$ 37,356	$ 10,415	$ 28,324	$ 40,167	$ 16,323	$ 13,606	$ 32,275
104,168	73,292	26,909	36,778	89,173	24,747	23,580	50,919
586	7,982	8,147	4,831	6,756	55	6,393	655
(2)	(2)	(1)	(3)	(1)	—	(2)	—
142,253	118,797	50,620	70,676	137,381	42,083	44,436	85,707
69,436	77,199	19,252	41,565	98,994	20,541	21,814	27,648
63,958	35,105	27,873	22,586	31,211	18,026	19,875	51,835
133,394	112,304	47,125	64,151	130,205	38,567	41,689	79,483
14	38	14	8	103	9	3	488
—	—	—	944	—	—	—	—
5,101	4,429	1,528	1,950	4,714	1,540	1,209	2,253
—	—	—	—	194	—	—	—
1,840	765	835	2,730	801	762	652	2,628
75	(13)	23	(28)	(84)	(103)	(19)	15
7,016	5,181	2,386	4,652	5,625	2,199	1,842	4,896
24.7%	31.4%	20.6%	40.1%	29.2%	38.8%	30.6%	37.7%
73.2%	61.7%	53.2%	52.0%	64.9%	58.8%	53.1%	59.4%
0.4%	6.7%	16.1%	6.8%	4.9%	0.1%	14.4%	0.8%
1.3%	0.6%	1.6%	3.9%	0.6%	1.8%	1.5%	3.1%
14.7%	12.3%	5.2%	7.3%	14.2%	4.3%	4.6%	8.8%
$ 36,502	$ 26,007	$ 10,539	$ 32,745	$ 23,079	$ 17,422	$ 9,620	$ 31,949
99,644	70,406	20,790	32,485	65,168	18,942	18,303	38,986
749	6,989	6,823	6,072	6,567	72	6,235	709
(3)	(5)	(3)	(15)	(5)	—	(4)	(1)
138,344	106,640	41,854	71,841	95,524	38,046	36,854	75,807
37,162	41,232	12,568	31,054	57,773	19,132	14,220	21,811
92,088	59,217	25,503	34,251	32,362	16,079	20,221	47,045
129,250	100,449	38,071	65,305	90,135	35,211	34,441	68,856
19	63	16	9	24	5	4	719
—	—	—	944	—	—	—	—
5,150	4,267	1,551	1,902	3,469	1,223	974	3,278
1,746	689	778	2,406	720	701	628	2,359
95	(17)	47	217	123	(4)	(16)	56
6,991	4,939	2,376	4,525	4,312	1,920	1,586	5,693
26.4%	24.4%	25.2%	45.6%	24.2%	45.8%	26.1%	42.1%
72.0%	66.0%	49.7%	45.2%	68.2%	49.8%	49.7%	51.4%
0.5%	6.5%	16.3%	8.4%	6.9%	0.2%	16.9%	0.9%
1.3%	0.6%	1.9%	3.3%	0.8%	1.8%	1.7%	3.1%
15.1%	11.7%	4.6%	7.9%	10.5%	4.2%	4.0%	8.3%

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(5) FHLBank capital stock is redeemable at the request of a member subject to the statutory redemption periods and other conditions and limitations. (See *Note 17 - Capital* to the accompanying combined financial statements.)

(6) Additional capital from merger primarily represents the amount of the FHLBank of Seattle's closing retained earnings balance as of the merger date, adjusted for fair value and other purchase accounting adjustments, and identified intangible assets, and is net of dividends paid by the FHLBank of Des Moines subsequent to the merger date. (See *Note 3 - FHLBanks of Des Moines and Seattle Merger* and *Note 17 - Capital* to the accompanying combined financial statements.)

Individual FHLBank Selected Financial Data and Financial Ratios (continued)

(dollars in millions)	Boston	New York	Pittsburgh
Selected Other Data			
December 31, 2015			
Advance concentrations - top five borrowers	39%	55%	74%
Capital stock concentrations - top five stockholders	31%	50%	68%
Regulatory capital-to-assets ratio(7)	6.0%	5.6%	4.6%
Core mission asset ratio(8)	69.7%	82.2%	82.1%
Cash and stock dividends			
Year-to-date December 31, 2015	$ 62	$ 228	$ 214
Year-to-date December 31, 2014	$ 37	$ 231	$ 104
Year-to-date December 31, 2013	$ 11	$ 200	$ 21
Weighted average dividend rate			
Year-to-date December 31, 2015	2.54%	4.24%	5.22%
Year-to-date December 31, 2014	1.49%	4.15%	3.65%
Year-to-date December 31, 2013	0.38%	4.19%	0.78%
Return on average equity(9)			
Year-to-date December 31, 2015	9.54%	6.61%	6.16%
Year-to-date December 31, 2014	5.24%	4.88%	6.83%
Year-to-date December 31, 2013	7.40%	5.22%	4.32%
Return on average assets			
Year-to-date December 31, 2015	0.52%	0.34%	0.29%
Year-to-date December 31, 2014	0.29%	0.25%	0.36%
Year-to-date December 31, 2013	0.54%	0.27%	0.24%
Net interest margin(10)			
Year-to-date December 31, 2015	0.41%	0.46%	0.36%
Year-to-date December 31, 2014	0.41%	0.36%	0.40%
Year-to-date December 31, 2013	0.65%	0.38%	0.32%
Net interest spread			
Year-to-date December 31, 2015	0.37%	0.43%	0.34%
Year-to-date December 31, 2014	0.36%	0.33%	0.37%
Year-to-date December 31, 2013	0.56%	0.35%	0.28%

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(7) The regulatory capital-to-assets ratio is calculated based on the FHLBank's total regulatory capital as a percentage of total assets held at period-end. (See *Note 17 - Capital* to the accompanying combined financial statements.)

(8) The core mission asset ratio is calculated based on the FHLBank's total primary mission assets, which includes advances and mortgage loans acquired from members (also referred to as acquired member assets) as a percentage of total consolidated obligations. The core mission asset ratio is calculated annually at year-end as part of the FHFA's examination process, using annual average par values. (See *Financial Discussion and Analysis - Legislative and Regulatory Developments - Significant FHFA Developments* for additional information.)

(9) Return on average equity is net income expressed as a percentage of average total capital.

(10) Net interest margin is equal to net interest income represented as a percentage of average interest-earning assets.

Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
59%	72%	43%	60%	57%	26%	55%	62%
52%	57%	34%	38%	43%	18%	49%	33%
4.9%	4.4%	4.7%	6.6%	4.2%	5.5%	4.2%	6.3%
73.9%	78.6%	73.9%	58.8%	71.5%	56.0%	78.9%	68.9%
$ 207	$ 173	$ 64	$ 25	$ 102	$ 6	$ 69	$ 369
$ 182	$ 176	$ 69	$ 14	$ 79	$ 4	$ 46	$ 240
$ 116	$ 178	$ 58	$ 6	$ 54	$ 4	$ 33	$ 161
4.47%	4.00%	4.12%	1.32%	2.87%	0.38%	5.26%	12.39%
3.84%	4.00%	4.18%	0.86%	2.82%	0.38%	4.22%	7.02%
2.51%	4.18%	3.50%	0.39%	2.61%	0.38%	2.42%	3.99%
4.63%	4.90%	5.13%	7.65%	2.74%	3.26%	4.78%	11.68%
4.11%	4.93%	4.72%	9.35%	3.17%	2.67%	6.29%	3.58%
5.42%	5.10%	8.82%	9.69%	3.68%	5.15%	6.37%	5.36%
0.23%	0.24%	0.27%	0.49%	0.12%	0.16%	0.21%	0.76%
0.21%	0.24%	0.30%	0.55%	0.14%	0.14%	0.30%	0.24%
0.28%	0.28%	0.51%	0.53%	0.20%	0.27%	0.33%	0.35%
0.19%	0.31%	0.44%	0.72%	0.28%	0.29%	0.55%	0.57%
0.25%	0.31%	0.47%	0.74%	0.30%	0.35%	0.64%	0.64%
0.29%	0.35%	0.56%	0.71%	0.39%	0.45%	0.61%	0.56%
0.17%	0.27%	0.39%	0.65%	0.25%	0.27%	0.52%	0.54%
0.24%	0.28%	0.40%	0.66%	0.28%	0.32%	0.61%	0.61%
0.26%	0.31%	0.48%	0.62%	0.34%	0.43%	0.57%	0.50%

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