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

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2020
OR
☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission File No. 000-51401

Federal Home Loan Bank of Chicago

(Exact name of registrant as specified in its charter)

Federally chartered corporation	**36-6001019**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
200 East Randolph Drive	
Chicago, IL	**60601**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(312) 565-5700**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered

Securities registered pursuant to Section 12(g) of the Act: **Class B Capital Stock, par value $100 per share**

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filings requirements for the past 90 days. Yes ☒ No ☐

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

Registrant's stock is not publicly traded and is only issued to members of the registrant. Such stock is issued and redeemed at par value, $100 per share, subject to applicable regulatory and statutory limits. At June 30, 2020, the aggregate par value of the stock held by current and former members was $2,125,328,880. As of January 31, 2021, registrant had 23,000,345 total outstanding shares of Class B Capital Stock, including mandatorily redeemable capital stock.

FHLB Chicago | Federal Home Loan Bank of Chicago

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(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 1. Business.

Where to Find More Information

The Federal Home Loan Bank of Chicago [a] maintains a website located at www.fhlbc.com where we make available our financial statements and other information regarding us and our products free of charge. We are required to file with the Securities and Exchange Commission (SEC) an annual report on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K. The SEC maintains a website that contains these reports and other information regarding our electronic filings located at www.sec.gov. Information on these websites, or that can be accessed through these websites, does not constitute a part of this annual report.

A **Glossary of Terms** can be found on page 128.

Introduction

We are a federally chartered corporation and one of 11 Federal Home Loan Banks (the FHLBs) that, with the Office of Finance, comprise the Federal Home Loan Bank System (the System). The FHLBs are government-sponsored enterprises (GSE) of the United States of America and were organized under the Federal Home Loan Bank Act of 1932, as amended (FHLB Act), in order to improve the availability of funds to support home ownership.

Each FHLB operates as a separate entity with its own management, employees, and board of directors. Each FHLB is a member-owned cooperative with members from a specifically defined geographic district. Our defined geographic district consists of the states of Illinois and Wisconsin. We are supervised and regulated by the Federal Housing Finance Agency (FHFA), an independent federal agency in the executive branch of the United States (U.S.) government.

As a cooperative, we do business with our members and, under limited circumstances, our former members, as well as providing support for the members of other FHLBs through our role operating the Mortgage Partnership Finance® (MPF®) Program. All federally-insured depository institutions, insurance companies engaged in residential housing finance, credit unions, and community development financial institutions located in Illinois and Wisconsin are eligible to apply for membership. All members are required to purchase our capital stock as a condition of membership; our capital stock is not publicly traded.

“Mortgage Partnership Finance”, “MPF”, "eMPF", “MPF Xtra”, “Downpayment Plus”, "DPP", "Downpayment Plus Advantage", "DPP Advantage", and "Community First" are registered trademarks of the Federal Home Loan Bank of Chicago.

Mission Statement

Our mission is to partner with our member shareholders in Illinois and Wisconsin to provide them competitively priced funding, a reasonable return on their investment in the Bank, and support for community investment activities.

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[a] Unless otherwise specified, references to we, us, our and the Bank are to the Federal Home Loan Bank of Chicago.

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(Dollars in tables in millions except per share amounts unless otherwise indicated)

Membership Trends

The following table presents the geographic locations of our members by type of institution:

	December 31, 2020				December 31, 2019			
	Number of Institutions				Number of Institutions			
	Illinois	**Wisconsin**	**Total**	**Percent**	Illinois	Wisconsin	Total	Percent
Commercial banks	**306**	**150**	**456**	**66 %**	309	156	465	67 %
Savings institutions	**46**	**21**	**67**	**10 %**	49	21	70	10 %
Credit unions	**48**	**52**	**100**	**15 %**	49	51	100	15 %
Insurance companies	**42**	**15**	**57**	**8 %**	36	12	48	7 %
Community Development Financial Institutions	**5**	**1**	**6**	**1 %**	5	1	6	1 %
Total	**447**	**239**	**686**	**100 %**	448	241	689	100 %

The following table presents our FDIC-insured depository institution members by asset size. Community Financial Institution is defined by our regulator, the FHFA, as FDIC-insured institutions with no more than $1.224 billion (the limit during 2020) in average total assets over three years. This limit is adjusted annually for inflation. See the **Glossary of Terms** on page 128 for further details.

As of December 31,	**2020**	2019
FDIC-insured depository institution member asset size:		
Community Financial Institutions	**90.25 %**	91.22 %
Larger non-CFI institutions	**9.75 %**	8.78 %
Total	**100 %**	100 %

In 2020, our total membership declined by three institutions.

We lost 23 members due to mergers and acquisitions. Although 20 of these members were acquired by other members in our district, three were acquired by out-of-district institutions.

We gained 20 new members by adding ten commercial banks, one credit union, and nine insurance companies during 2020, as we continue to work toward our goal of building a stronger cooperative by adding new members.

Additionally, pursuant to the FHFA 2016 Final Rule for Membership in the Federal Home Loan Bank System, effective February 19, 2021, we terminated the membership of our three captive insurance company members.

In 2020, 89% of our member institutions used at least one of our core product offerings - advances, letters of credit, or MPF Program products - or participated in our competitive Affordable Housing Program (AHP) or Downpayment Plus® Program (DPP) Programs.

Business Overview

Our mission-focused business is different from that of a typical financial services firm. As a cooperative, we use our resources to support member utilization of the cooperative, and to support the communities in which members operate.

Our mission is to partner with our members in Illinois and Wisconsin to provide them with competitively priced funding, a reasonable return on their investment in the Bank, and support for their community investment activities. Our vision is dedication to efficiently delivering valuable products, solutions, and services to our members through teamwork, innovative thinking, and creating positive change with our commitment to diversity, equity, and inclusion.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Our strategy focuses on three primary pillars:

1. Financial Strength and Member Engagement. Leverage our financial strength to ensure we stay true to our mission: we will support our members' return on investment; provide meaningful support for their community investment activities; and promote member engagement.
2. Technology and Operational Excellence. Achieve operational excellence by: designing processes around technology solutions; providing nimbleness, security and scale; enhancing customer experience; and increasing efficiencies; and positioning us for strategic alternatives.
3. Talent and Culture. Build an inclusive workplace that: promotes diversity and equity and attracts and retains key talent in a rapidly changing environment.

Mission Asset Ratio

The following table represents our view of the mission-focused business we do as a cooperative bank.

	2020	2019
Average par value for the year ended December 31,		
Advances	**$ 53,639**	$ 54,880
Mortgage assets (Acquired Member Assets - AMA)	**10,312**	8,256
Primary mission assets	**$ 63,951**	$ 63,136
Consolidated obligations	**$ 94,130**	$ 91,271
U.S. Treasuries	**5,487**	4,003
Consolidated obligations less U.S. Treasuries	**$ 88,643**	$ 87,268
Primary mission asset ratio	**72.1 %**	72.3 %
Supplemental mission assets and activities as of December 31,		
MPF Program Loans held by other third party investors	**$ 26,300**	$ 19,198
Member standby letters of credit	**16,395**	23,851
Mission related liquidity	**7,527**	7,487
Small Business Administration investments	**2,529**	1,787
Housing authority standby bonds purchased and commitments outstanding	**480**	459
MPF Loan delivery commitments	**1,527**	615
Advance commitments	**595**	38
Member derivatives	**2**	7
Community First Fund loans and commitments	**46**	46
Supplemental mission assets and activities	**$ 55,401**	$ 53,488

We provide credit to members principally in the form of secured loans called advances (inclusive of forward starting advances), as well as through standby letters of credit. We provide liquidity for home mortgage loans to members approved as Participating Financial Institutions (PFIs) through the MPF Program. We also serve as a critical source of standby liquidity for our members.

Our primary funding source is proceeds from the sale to the public of FHLB debt instruments (consolidated obligations) which are, under the FHLB Act, the joint and several liability of all the FHLBs. Consolidated obligations are not obligations of the U.S. government, and the U.S. government does not guarantee them. Additional funds are provided by deposits, other borrowings, and the issuance of capital stock. We also provide members and non-members with correspondent services such as safekeeping, wire transfers, and cash management.

The FHFA issued an advisory bulletin which provides guidance relating to how the FHFA will assess each FHLB's core mission achievement. The FHFA will 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, less U.S. Treasuries held for liquidity purposes in our trading or available for sale accounts. The primary mission asset ratio will be calculated annually at year-end as part of the FHFA's examination process, using annual average par values. When the ratio is at least 70% or higher, the FHLB's strategic plan should include an assessment of the FHLB's prospects for

maintaining this level and when the ratio is less than 70%, the FHFA expects certain actions with respect to an FHLB's strategic plan to increase the ratio.

Our primary mission asset ratio for the year ended December 31, 2020, was 72.1%.

For a discussion on how the loss of, or change in business activities with, significant members may negatively impact our primary mission asset ratio, see **Risk Factors** on page 23.

Member-Focused Business

Member credit products, which include advances, standby letters of credit, and other extensions of credit to borrowers, are discussed in detail below.

Advances

We provide credit to members principally in the form of secured loans, called advances. Our advances to members:

- serve as a reliable source of funding and liquidity;
- provide members with enhanced tools for asset-liability management;
- provide interim funding for those members that choose to sell or securitize their mortgages;
- support residential mortgages held in member portfolios;
- support important housing markets, including those focused on very low-, low-, and moderate-income households; and
- provide funds to member community financial institutions (CFI) for secured loans to businesses, farms, agribusinesses, and community development activities.

We make secured, fixed- or floating-rate advances to our members. Advances are secured by mortgages and other collateral that our members pledge. We determine the maximum amount and term of advances we will lend to a member as follows:

- we value the types of collateral eligible to be pledged to us and apply a margin to secure our advances to members, based on our assessment of the member's creditworthiness and financial condition; and
- we conduct periodic collateral reviews with members to establish the amount we will lend against each collateral type.

We are required to obtain and maintain a security interest in eligible collateral at the time we originate or renew an advance. For further detail on our underwriting and collateral guidelines, see **Establishing Credit Limits** on page 70.

We offer a variety of fixed- and adjustable-rate advances, with maturities ranging from one day to 30 years. Examples of standard advance structures include the following:

- Fixed-Rate Advances: Fixed-rate advances have maturities from one day to 30 years.
- Variable-Rate Advances: Variable-rate advances include advances that have interest rates that reset periodically at a fixed spread to an FHLB discount note rate-based index, London Interbank Offer Rate (LIBOR), Federal Funds, or some other index (such as the Secured Overnight Financing Rate (SOFR)). Depending upon the type of advance selected, the member may have an interest-rate cap embedded in the advance to limit the rate of interest the member would have to pay.
- Putable Advances: We issue putable, fixed- and floating-rate advances in which we maintain the right to terminate the advance at predetermined exercise dates at par.
- Callable Advances: We issue callable, fixed-rate advances in which members have the right to prepay the advance on predetermined dates without incurring prepayment or termination fees.
- Other Advances: (1) Open-line advances are designed to provide flexible funding to meet our members' daily liquidity needs and may be drawn for one day. These advances are automatically renewed. Rates are set daily at the close of business. (2) Fixed amortizing advances have maturities that range from one year to 30 years, with the principal

repaid over the term of the advances monthly, quarterly, or semi-annually. (3) Fixed Rate with Floating Spread advances are designed to meet our members' liability duration needs at lower cost than regular fixed rate advances.

We also offer features designed to meet our members' business needs such as the following:

- Symmetrical prepayment feature where the member would either pay a prepayment fee or prepay the advance below par upon termination, depending on the structure of the advance at the time of termination.
- Commitment feature, called "forward-starting advances", to fund an advance on a negotiated funding date at a predetermined interest rate.
- Expander feature, which allows a member one or multiple opportunities to increase the principal amount of the advance.

The FHLB Act authorizes us to make advances to non-member housing associates that meet regulatory eligibility requirements including that the housing associate is approved under Title II of the National Housing Act. We currently have approved four non-member housing associates that are eligible to borrow from the Bank. We had $18 million in advances outstanding to non-member housing associates at December 31, 2020, and $18 million at December 31, 2019.

For disclosure relating to our five largest advance borrowers as of December 31, 2020, see page 53.

Competition

Demand for our advances is affected by, among other things, the cost of other sources of funding available to our members, including our members' customer deposits. We compete with suppliers of both secured and unsecured wholesale funding. These competitors may include investment banks, commercial banks, and other FHLBs when our members' affiliated institutions are members of other FHLBs. Under the FHLB Act and FHFA regulations, affiliated institutions in different FHLB districts may be members of different FHLBs.

Some members may have limited access to alternative funding sources while other members may have access to a wider range of funding sources, such as repurchase agreements, brokered deposits, commercial paper, covered bonds collateralized with residential mortgage loans, and other funding sources. Some members, particularly larger members, may have independent access to the national and global credit markets.

The availability of alternative funding sources influences the demand and pricing for our advances and can vary as a result of a number of factors, such as the regulatory environment, market conditions, products, members' creditworthiness, and availability of collateral. We compete for advances on the basis of the total cost of our products to our members (which include the rates we charge, required capital stock purchases, and any dividends we pay), credit and collateral terms, prepayment terms, product features such as embedded options, and the ability to meet members' specific requests on a timely basis. In addition, the transition from LIBOR to SOFR (as further discussed in **LIBOR Transition** on page 56) may impact the pricing of our advance products relative to competitor rates and may reduce the number of advance products we can offer.

In addition, our competitive environment continues to be impacted by the changes in the interest-rate environment and the extent to which our members use our advances primarily as a back-up source of liquidity as opposed to part of their primary funding strategies. Moreover, the Federal Reserve's emergency actions to increase liquidity, along with market conditions resulting from the COVID-19 pandemic, have resulted in lower demand for new advances from our depository members and prepayment of their existing advances. For further discussion of the impact of these and other factors on demand for our advances, see **Risk Factors** starting on page 23.

Standby Letters of Credit

We may provide members and housing associates with standby letters of credit (also referred to herein as letters of credit) to support obligations to third parties to facilitate residential housing finance, community lending, to achieve liquidity, and for asset-liability management purposes. In particular, members often use letters of credit as collateral for deposits from federal and state governmental agencies. Letters of credit are generally available for terms of up to 20 years or for a one year term renewable annually. If we are required to make payment for a beneficiary's draw, these amounts either must be reimbursed by the member immediately or may be converted to an advance. Our underwriting and collateral requirements for letters of credit are the same as the underwriting and collateral requirements for advances. Letters of credit are not currently subject to activity capital stock purchase requirements, but effective May 3, 2021, an activity capital stock requirement will apply to all letters of credit issued on or after that date. If any advances were to be made in connection with these standby letters of credit, they would be made under the same standards and terms as any other advance. For more details on our letters of credit see **Note 16 - Commitments and Contingencies** to the financial statements.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Mortgage Partnership Finance® Program

MPF Program Overview

We developed the MPF® Program to provide an additional source of liquidity to our members and to allow us to invest in mortgages to help fulfill our housing mission. The MPF Program is a secondary mortgage market business under which we purchase mortgage loans from our members and housing associates and members and housing associates of other FHLBs (together with us, the MPF Banks) that participate in the MPF Program (collectively, Participating Financial Institutions or PFIs). These mortgage loans are conventional and government mortgage loans secured by one-to-four family residential properties with maturities ranging from 5 to 30 years or participations in such mortgage loans that are acquired under the MPF Program (MPF Loans).

We purchase MPF Loans to retain in our portfolio for investment, to sell to third parties, or to securitize Government Loans into Ginnie MBS. Our regulatory limit for our investment in MPF Loans held in our portfolio is the lesser of eight times retained earnings or 20% of total assets. Our MPF Loan products are outlined in the chart below:

MPF Product	Mortgage Type	Loan Balance	Held in our Portfolio for Investment?
MPF Original [a], MPF 35, MPF 100 [b]; MPF 125 and MPF Plus [b]	Conventional	Conforming	Yes
MPF Government [c]	Government	Determined by the applicable government agency eligibility guidelines	Yes
MPF Xtra	Conventional	Conforming	MPF Loans are concurrently sold to the Federal National Mortgage Association (Fannie Mae).
MPF Direct [b]	Conventional	Non-conforming (jumbo - up to $2,500,000)	MPF Loans are concurrently sold to a third party investor.
MPF Government MBS	Government	Determined by the applicable government agency eligibility guidelines	Government Loans are held in our portfolio for a short period of time until such loans are pooled into Ginnie Mae MBS.

[a] PFIs share in the associated credit risk of these MPF Loan products in accordance with the FHFA Acquired Member Assets (AMA) regulation requirements.

[b] MPF 100, MPF Plus, and MPF Direct are not currently offered.

[c] Government Loans are insured or guaranteed by one of the following government agencies: the Federal Housing Administration (FHA); the Department of Veterans Affairs (VA); Rural Housing Service of the Department of Agriculture (RHS); or Department of Housing and Urban Development (HUD) (collectively, Government Loans).

We provide programmatic and operational support in our role as the administrator of the MPF Program on behalf of the other MPF Banks for a fee. MPF Banks may acquire whole loans from their PFIs to retain on their balance sheet and may purchase or sell participations in MPF Loans with other MPF Banks. Other MPF Banks' PFIs that participate in off balance sheet products sell MPF Loans directly to us.

Member PFIs

Members and eligible housing associates become PFIs of their respective MPF Bank by executing a PFI Agreement that provides the MPF Loan selling and servicing terms and conditions. The MPF Guides supplement the PFI Agreement and provides additional requirements for PFI eligibility including maintenance of anti-predatory lending policies, errors and omissions insurance and a fidelity bond. All of the PFI's obligations under the PFI Agreement are secured under its advances agreement with the MPF Bank. A PFI is required to deliver collateral for their CE Amount (as further discussed below) and an MPF Bank can request additional collateral to secure the PFI's other obligations under the PFI Agreement, if necessary.

Mortgage Standards

For conventional MPF Loans held in our portfolio, PFIs are required to deliver mortgage loans that meet the underwriting and eligibility requirements in the PFI Agreement and the MPF Guides, unless a PFI is granted a waiver that exempts such PFI from complying with a specific requirement. MPF Loan requirements include:

- A maximum loan-to-value (LTV) ratio of 95%;

- Mortgage Loans with LTVs greater than 80% must be insured by primary mortgage insurance (PMI);
- Compliance with all applicable laws documented using standard Fannie Mae/Freddie Mac Uniform Instruments; and
- Meeting the definition of a Qualified Mortgage under the Truth and Lending Act (TILA).

Mortgage loans that are classified as high cost, high rate, or Home Ownership and Equity Protection Act loans, or loans in similar categories defined under predatory lending or abusive lending laws are not eligible under the MPF Program. We perform a quality assurance review of a selected sample of MPF Loans for each PFI in order to determine that the loans complied with the MPF Program requirements at the time of acquisition.

For our off balance sheet products and Government Loan product, PFIs are required to deliver mortgage loans that meet the applicable investor or government agency eligibility and underwriting requirements outlined in the MPF Guides.

We make customary representations and warranties regarding the eligibility of the off balance sheet MPF Loans to third party investors. If a loan eligibility requirement or other warranty is breached, these third parties could require us to repurchase the MPF Loan or provide an indemnity. PFIs make the same representations and warranties to us with respect to the MPF Loans. When a PFI sells a mortgage loan under any MPF Loan product that fails to comply with the representations and warranties, the PFI may be required to provide an indemnification covering related losses or to repurchase the MPF Loans if the failure cannot be cured. See **Mortgage Repurchase Risk** on page 74 for further information about MPF Loans repurchases.

Loss Structure for Credit Risk Sharing Products

For conventional MPF Loan products held in our portfolio, PFIs are required to share in the credit risk associated with the mortgage loans. Each MPF Loan delivered by a PFI is linked to a Master Commitment (MC) and losses arising from a mortgage loan are allocated to the appropriate loss layer in that MC. Credit losses not absorbed by the borrower's equity in the property and any primary mortgage insurance (if available), are allocated between a PFI and their MPF Bank in the following order:

- The PFI's performance based CE Fees. The PFI is paid a monthly credit enhancement fee for sharing the credit risk associated with these mortgage loans (CE Fees) and some of this fee may be performance based. CE Fees vary between 6 to 14 basis points depending on the product. We will withhold a PFI's scheduled performance based CE Fees in order to reimburse ourselves for any losses allocated to the First Loss Account (FLA) and the amount of such withholding is a component of the overall credit enhancement provided by the PFI.

- The MPF Bank's First Loss Account (FLA). The FLA functions as a tracking mechanism for our first layer of credit loss exposure before the PFI's credit enhancement obligation (CE Amount) would cover the next layer of losses. The amount of the FLA is agreed upon when a PFI begins to sell loans into an MC depending on the product. Our FLA exposure varies by MPF Loan product type and it can build over the life of the MC by 3-6 basis points annually or it can be fixed from 35-100 basis points.

- The PFI's CE Amount. The PFI's CE Amount is a direct liability of the PFI to pay credit losses up to a specified amount, which may include proceeds from a provider of supplemental mortgage guaranty insurance (SMI). The CE Amount is determined by the MPF Bank consistent with the FHFA's AMA regulation. For further details, see **Setting Credit Enhancement Levels** on page 73.

- The MPF Bank. After the CE Amount has been exhausted, the MPF Bank will absorb any further losses.

MPF Servicing

PFIs can retain the rights and responsibilities for servicing MPF Loans sold under the MPF Program or choose a servicing released option. If PFIs chose to retain servicing rights for MPF Loans sold under the MPF Xtra and MPF Government MBS products, we are contractually obligated to Fannie Mae and Ginnie Mae, respectively, with respect to servicing those loans. The MPF Direct product is servicing released only and we do not have any responsibilities related to the servicing of MPF Loans delivered under the MPF Direct product.

We monitor servicers that service (1) MPF Loans held in our portfolio and (2) MPF Loans that are sold under MPF Xtra and MPF Government MBS when we are contractually responsible to Fannie Mae or Ginnie Mae, respectively, for the loan servicing. If a servicer fails to comply with the servicing requirements, we can charge fees, require mortgage loan repurchase, request indemnification or terminate the servicer's right to service the MPF Loans.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Competition

We face competition in the markets for conventional loans, non-conforming loans, government loans, and loans with credit risk sharing arrangements from secondary market participants. Secondary market participants include, but are not limited to, dealers, banks, hedge funds, money managers, insurance companies, large mortgage aggregators, private investors, and other GSEs such as Fannie Mae and Freddie Mac. Some of these competitors have greater resources, larger volumes of business, and longer operating histories. As a result, our ongoing revenue derived from MPF Loan products may be affected by the volume of business done by our competitors.

Other Activities

Investments

We maintain a portfolio of investments for liquidity purposes and to provide additional earnings. To ensure the availability of funds to meet member credit needs, we maintain a portfolio of short-term liquid assets, principally overnight Federal Funds sold, and securities purchased under agreements to resell, entered into with or issued by highly rated institutions and other eligible counterparties. For further discussion of unsecured credit exposures related to our short-term investment portfolio, see **Unsecured Short Term Investments** on page 77.

Our longer-term investment debt securities portfolio includes securities issued by the U.S. government, U.S. government agencies, and GSEs, as well as investments in Federal Family Education Loan Program (FFELP) student loan asset-backed securities (ABS), and mortgage-backed securities (MBS) that are issued by GSEs or that were rated “AAA/Aaa” or “AA/Aa” from Moody's Investors Service (Moody's), Standard and Poor's Rating Service (S&P), or Fitch Ratings, Inc. (Fitch) at the time of purchase. For a discussion of how recent market conditions have affected the carrying value and ratings of these securities, see **Investment Debt Securities** on page 76. For this purpose, GSE includes Fannie Mae, Freddie Mac, and the Federal Farm Credit Banks Funding Corporation. Securities issued by GSEs are not guaranteed by the U.S. government.

Under FHFA regulations, we are prohibited from trading debt securities for speculative purposes or engaging in market-making activities. Additionally, we are prohibited from investing in certain types of securities or loans, including:

- instruments, such as common stock, that represent an ownership in an entity, other than common stock in small business investment companies (where one or more members or housing associates of the Bank also make a material investment in the same activity) or certain investments targeted to low-income households or communities;
- instruments issued by non-U.S. entities, other than those issued by U.S. branches and agency offices of foreign commercial banks;
- non-investment grade debt instruments, other than certain investments targeted to low-income households or communities, or instruments that were downgraded after purchase;
- whole mortgages or other whole loans, other than, (1) those acquired under our MPF Program, (2) certain investments targeted to low-income households or communities, (3) certain marketable direct obligations of state, local, or tribal government units or agencies, that are investment quality, (4) certain MBS or asset-backed securities backed by manufactured housing loans or home equity loans; and, (5) certain foreign housing loans authorized under the FHLB Act;
- interest-only or principal-only stripped securities;
- residual-interest or interest-accrual classes of securities;
- fixed-rate MBS or eligible ABS, or floating-rate MBS or eligible ABS, that on the trade date are at rates equal to their contractual cap and that have average lives that vary by more than six years under an assumed instantaneous interest rate change of 300 basis points, unless the instrument qualifies as AMA; and
- non-U.S. dollar-denominated securities.

FHFA regulations further limit our investment in MBS and ABS by requiring that these investments may not exceed 300% of our previous month-end regulatory capital on the day we purchase the securities and we may not exceed our holdings of such securities in any one calendar quarter by more than 50% of our total regulatory capital at the beginning of that quarter. For purposes of calculating the limit on our MBS/ABS portfolio, we value our investments in accordance with FHFA regulations based on amortized cost for securities classified as held-to-maturity or available-for-sale and on fair value for trading debt securities.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Regulatory capital consists of our total capital stock (including the mandatorily redeemable capital stock) plus our retained earnings. This limitation does not apply to instruments qualifying as AMA, like newly issued Ginnie Mae securities that have been created through the MPF Government MBS product that are temporarily owned by the Bank.

Subject to regulatory limitations, we resumed making investments in MBS in June 2018.

Additionally, we are subject to certain investment limitations related to LIBOR, as discussed in **LIBOR Transition** on page 56.

Derivative Activities

We engage in most of our derivative transactions with major broker-dealers as part of our interest rate risk management and hedging strategies. Additionally, we also enter into interest rate derivatives with our members in order to provide them with indirect access to the derivatives market. In instances where we do not use interest rate derivatives for our own hedging purposes, we act as an intermediary for our members by entering into an interest rate derivative directly with the member and then entering into an offsetting interest rate derivative transaction with a non-member counterparty. We do not act as a dealer in derivative transactions involving members.

The FHFA's regulations and our internal derivatives and hedging policies all establish guidelines for our use of interest rate derivatives. These regulations prohibit the speculative use of financial instruments authorized for hedging purposes. They also limit the amount of counterparty credit risk allowed. See **Item 7A. Quantitative and Qualitative Disclosures About Market Risk** on page 80.

Community Investment Activities

We provide financing and direct funding tools that support the affordable housing and community lending initiatives of our members that benefit very low-, low-, and moderate-income individuals, households, businesses and neighborhoods. Outlined below is a more detailed description of the mission-related programs that we administer and fund:

Affordable Housing Program (AHP) - We offer AHP subsidies in the form of direct grants to members to stimulate affordable rental and homeownership opportunities for households with incomes at or below 80% of the area's median income, adjusted for family size. By regulation, we are required to contribute 10% of our income before assessments to fund AHP. Of that required contribution, we may allocate up to the greater of $4.5 million or 35% to provide funds to members participating in our homeownership set-aside programs.

Direct grants are available under our competitive AHP to members in partnership with community sponsors and may be used to fund the acquisition, rehabilitation, and new construction of affordable rental or owner-occupied housing. We awarded competitive AHP subsidies of $25 million for the year ended December 31, 2020 and $28 million for the year ended December 31, 2019, for projects designed to provide housing to 2,113 and 2,671 households.

In addition, direct grants are available to members under our Downpayment Plus® homeownership set-aside programs and may be provided to eligible homebuyers to assist with down payment, closing, counseling, or rehabilitation costs in conjunction with an acquisition. During the years ended December 31, 2020 and 2019, we funded $17 million and $20 million through our Downpayment Plus programs to assist 2,999 and 3,451 very low- to moderate-income homebuyers.

During 2021, we anticipate having $43 million available in total for our Downpayment Plus programs and grants through our competitive AHP.

Community Advances Programs and related letters of credit - We offer programs where members may apply for advances or letters of credit to support affordable housing or community economic development lending. These programs provide advance funding at interest rates below regular advance rates for terms typically up to 10 years. Our Community Advances programs may be used to finance affordable homeownership housing, multi-family rental projects, industrial and manufacturing facilities, agricultural businesses, healthcare, educational centers, public or private infrastructure projects, or commercial businesses. As of December 31, 2020, and 2019, we had $381 million and $666 million in advances outstanding under the Community Advances programs and related letters of credit outstanding of $77 million and $102 million.

Community First® Fund - Our Board of Directors approved $50 million in 2011 to supplement our current affordable housing and community investment programs, which became the foundation for the Community First Fund (the Fund). The Fund is an innovative revolving credit facility designed to provide low cost, longer term financing to community development financial institutions, community development loan funds, and state housing finance authorities promoting affordable housing and economic development in our district. We approved our first loans under the Fund in 2014 and as of December 31, 2020, and 2019, had $45 million in loans outstanding and $1 million in unfunded loan commitments.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

COVID-19 Relief Programs - In response to the COVID-19 pandemic, the Bank offered the COVID-19 Relief Programs to support communities in Illinois and Wisconsin. For more information on our COVID-19 Relief Programs, see **COVID-19 Relief Programs** on page 13.

Deposits

We accept deposits from our members, institutions eligible to become members, any institution for which we are providing correspondent services, other FHLBs, and other government instrumentalities. We offer several types of deposits to our deposit customers including demand, overnight, and term deposits. For a description of our liquidity requirements with respect to member deposits see **Liquidity** on page 54.

Funding

Consolidated Obligations

Our primary source of funds is the sale to the public of FHLB debt instruments, called consolidated obligations, in the capital markets. Additional funds are provided by deposits, other borrowings, and the issuance of capital stock. Consolidated obligations, which consist of bonds and discount notes, are the joint and several liability of the FHLBs, although the primary obligation is with the individual FHLB that receives the proceeds from issuance. Consolidated obligations are issued to the public through the Office of Finance using authorized securities dealers. Consolidated obligations are backed only by the financial resources of the FHLBs and are not guaranteed by the U.S. government. See **Funding** on page 55 for further discussion.

Competition

We compete with the U.S. government, Fannie Mae, Freddie Mac, and other GSEs, as well as corporate, sovereign, and supranational entities, including the World Bank, for funds raised through the issuance of unsecured debt in the domestic and global debt markets. Increases in the supply of competing debt products may, in the absence of increases in demand, result in higher debt costs or lesser amounts of debt issued at the same cost than otherwise would be the case. For example, a change in the types or an increase in the amounts of U.S. Treasury issuance may affect our ability to raise funds because it provides alternative investment options. Furthermore, to the extent that investors perceive Fannie Mae and Freddie Mac or other issuers as having a higher level of government support, their debt securities may be more attractive to investors than FHLB System debt.

The FHLBs have traditionally had a diversified funding base of domestic and foreign investors, although investor demand for our debt depends in part on prevailing conditions in the financial markets. For further discussion of market conditions and their potential impact on us, see **Risk Factors** starting on page 23 and **Funding** on page 55.

Although the available supply of funds from the FHLBs' debt issuances has kept pace with the funding requirements of our members, there can be no assurance that this will continue to be the case.

Business Environment

Our financial condition and results of operations are influenced by the interest rate environment, global and national economies, local economies within our districts of Illinois and Wisconsin, and the conditions in the financial, housing, and credit markets. In particular, our net interest income is affected by several external factors, including market interest rate levels and volatility, credit spreads and the general state of the economy. We endeavor to manage our interest rate risk by entering into fair value hedge relationships utilizing interest rate derivative agreements to hedge a portion of our advances, available-for-sale debt securities, and debt. We are exposed to the variability in the total net proceeds received from forecasted zero-coupon discount note issuances, which is attributable to changes in the benchmark interest rate. As a result, we enter into cash flow hedge relationships utilizing derivative agreements to hedge the total net proceeds received from our "rolling" forecasted zero-coupon discount note issuances attributable to changes in the benchmark interest rate. Additionally, we enter into economic hedges using derivative agreements to hedge our mortgage-related assets, which are sensitive to changes in mortgage rates. Many of our balance sheet hedging strategies are subject to change due to the planned phase-out of LIBOR. For further discussion of the potential impact of the LIBOR transition, see **Risk Factors** starting on page 23 and **LIBOR Transition** on page 56.

Our profitability is significantly affected by the interest rate environment. We earn relatively narrow spreads between yields on assets and the rates paid on corresponding liabilities. A large portion of our advance business is based on our funding costs plus a narrow spread. We also expect our ability to generate significant earnings on capital and short-term investments will be affected by the Federal Reserve's policy of setting the short-term Federal Funds rate. Income and spreads can also be affected

by changes in regulations or accounting rules, which can change the funding, hedging, and the liquidity profile of our balance sheet. Short-term interest rates also directly affect our earnings on invested capital.

Our operating results are affected not only by rising or falling interest rates, but also by the particular path and volatility of changes in market interest rates and the prevailing shape of the yield curve. A flattening of the yield curve tends to compress our net interest margin, while steepening of the curve offers better opportunities to purchase assets with wider net interest spreads. The performance of our MPF Loans held for investment portfolio is particularly affected by shifts in the 10-year maturity range of the yield curve, which heavily influences mortgage rates and potential refinancings. Yield curve shape can also influence the pace at which borrowers refinance or prepay their existing loans, as borrowers may select shorter-duration mortgage products in a refinancing. As higher coupon MPF Loans mature, the return of principal may not be invested in assets with a comparable yield, resulting in a potential decline in the aggregate yield on the remaining MPF Loans held for investment portfolio and investment debt securities and a possible decrease in our net interest margin.

Lastly, the volume related to our MPF Xtra and MPF Direct programs as well as our Ginnie Mae MBS issuances also are influenced by the interest rate environment, global and national economies, local economies within our districts of Illinois and Wisconsin, and the conditions in the financial, housing and credit markets.

Environmental, Social, and Governance

We consider Environmental, Social, and Governance (ESG) criteria to be exceptionally valuable as it relates to the manner in which we conduct business with our member shareholders. We have developed extensive programs impacting the communities we serve in Illinois and Wisconsin, as well as our employees, to offer support in times of crisis such as the current COVID-19 pandemic. We are committed to maintaining a position that enables us to provide the services needed to empower those who rely on our organization.

Environmental

In 2019, we announced our plan to move to the Old Post Office at 433 West Van Buren Street in Chicago, Illinois in 2021. This move affords an enhanced commitment to energy efficiency. Our new building will offer a variety of green and eco-friendly actions we can partake in. Additionally, there will be amenities we can utilize to help create a more sustainable environment. This list includes a recycling program, which will help extend the life of current landfill areas, e-recycling for electronic waste such as light bulbs and ballasts, and a 3.5-acre green space on the rooftop.

Social

We were named a Top Workplace in 2020 by the *Chicago Tribune*. This honor is based on our employees' feedback to a survey administered earlier this year by a third-party employee engagement technology partner the Chicago Tribune uses to rank workplaces in the Chicago area. The anonymous survey measures important aspects of an engaged culture, including alignment, execution, and connection.

COVID-19 Relief Programs

In response to the COVID-19 pandemic, on April 20, 2020 the Bank announced the COVID-19 Relief Program to support communities in Illinois and Wisconsin. Under this program, each Bank member and non-member housing associate was eligible to draw up to $4 million in an interest-free advance (up to a total of $2.76 billion in interest-free advances under the program). Additionally, under this program, the Bank offered all members and non-member housing associates the opportunity to request up to $20,000 in grants to benefit small businesses and non-profit organizations of their choosing. While the initial program was highly successful, the Bank reviewed what communities were not impacted by the program. As a result of evaluating the impact of the COVID-19 Relief Program and gaps in its impact, the Bank offered grants to our members under the Targeted Impact Fund to support four categories of beneficiaries - minority and women business enterprises, organizations focused on the advancement of Black and Brown communities, social services agencies working with communities hardest hit by COVID-19 including Black, Latin, Tribal, and rural communities as well as the elderly. These grants were available to be used to promote equity and opportunity for underserved populations. (The COVID-19 Relief Program and the Targeted Impact Fund are collectively, the "COVID-19 Relief Programs"). The Bank committed to invest approximately $30 million in the COVID-19 Relief Programs, of which $28 million was provided to members and recorded as an expense in 2020.

FHLB Chicago | Federal Home Loan Bank of Chicago

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Please reference the table below for more data on our COVID-19 Relief Programs.

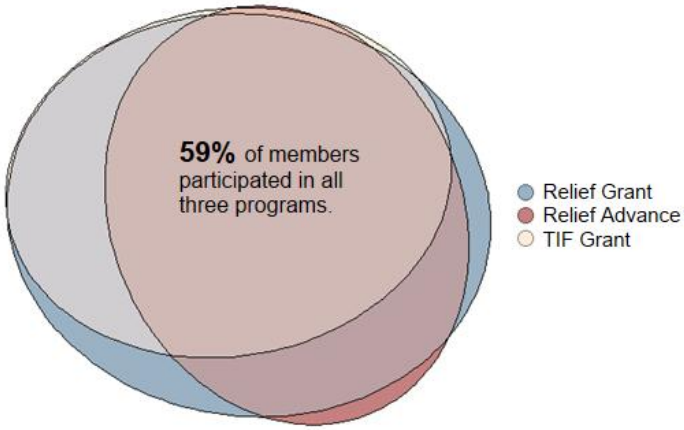
COVID-19 Relief Programs Summary

FHLB Chicago
Federal Home Loan Bank of Chicago

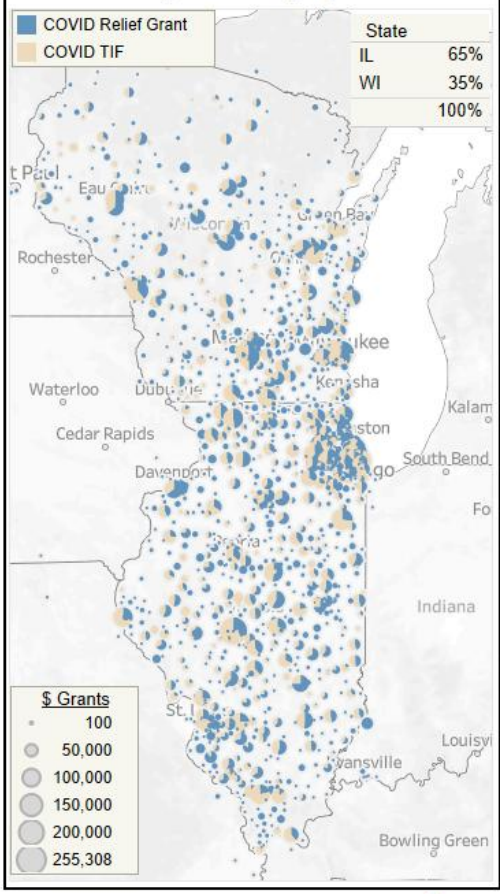
Summary By Relief Program

Program	$ Amount	# of Members	% of Members	# of Beneficiaries
COVID Relief Grant	$13.1M	654	95%	5,031
COVID Advance Interest Subsidy*	$6.4M	506	74%	N/A
COVID Targeted Impact Fund**	$8.3M	522	76%	1,398
Total	$27.7M	674	98%	6,429

COVID Program Member Participation
Program Overlap: Percent of Members



Grants By Beneficiary Zip Code



* **Relief Advance:** The dollar amount above represent the interest subsidy associated with the participating members. Participating members received just under $2 billion in COVID Relief Advances.
** Does not include the member match of $1.5 million.

COMMITTED TO DIVERSITY AND INCLUSION

Community Investment Activities

We provide financing and direct funding tools that support the affordable housing and local community lending initiatives of our members. By using our products individually or in combination, our members and their community partners can create economically competitive solutions that contribute to the quality of life in the communities they serve. Please reference the table below for data on our community lending, grant and voluntary programs since their inception.

FHLB Chicago | Federal Home Loan Bank of Chicago

(Dollars in tables in millions except per share amounts unless otherwise indicated)

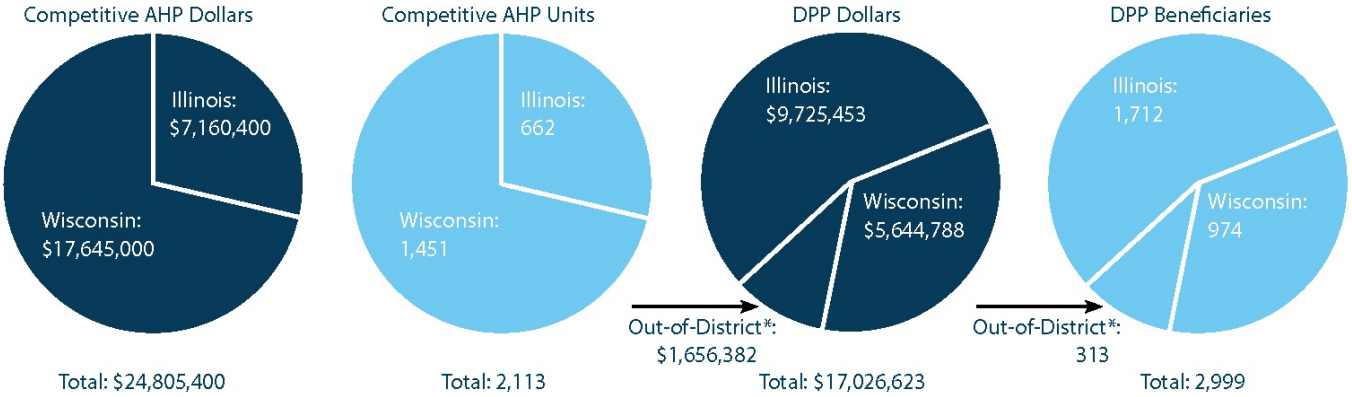
2020 Community Investment Performance Summary

The Federal Home Loan Bank of Chicago (FHLBank Chicago) provides financing and direct funding tools that support the aordable housing and local community lending initiatives of our members. By using our products individually or in combination, FHLBank Chicago members and their community partners can create economically competitive solutions that contribute to the quality of life in the communities they serve.

Programs

	2020 Beneficiaries	2020 Dollars (originated)	Cumulative Since 1989 Beneficiaries	Cumulative Since 1989 Dollars ($ millions) (originated)
Community Lending				
Community Development Advance	15 (t)	$395,536,348	1,001 (t)	$3,103
Community Housing Advance	6,463 (u)	$836,533,461	139,361 (u)	$9,805
Community Small Business Advance	24 (t)	$16,409,177	64 (t)	$34
Mixed Use	0 (t)	$0	42 (t)	$113
Subtotal Community Lending		$1,248,478,986		$13,055
Grant Programs				
Competitive Affordable Housing Program (AHP)*	2,113 (u)	$24,805,400	86,375 (u)	$508
Downpayment Plus (DPP) Program	2,912 (u)	$16,507,096	41,489 (u)	$222
Downpayment Plus Advantage (DPP Advantage)	87 (u)	$519,527	1,444 (u)	$9
Subtotal Grant Programs	5,112 (u)	$41,832,023	129,308 (u)	$739
Total Program Financing		$1,290,311,009		$13,794

(t) transactions (u) housing units *Awarded



Unit Breakdown:	Homeownership	Rental
Illinois	30	632
Wisconsin	256	1,195
Out-of-District	0	0
Total:	286	1,827

*Out-of-District represents grants made by our members for their customers that are located outside of Illinois and Wisconsin.

Voluntary Programs

	2020 Beneficiaries	2020 Dollars (committed)	Since Inception Beneficiaries	Since Inception Dollars (committed)
Community First® Awards (i)	4	$40,000	39	$347,500
Community First® Capacity-Building* (i)	21	$948,562	41	$1,709,526
Community First® Disaster Relief (i)	0	0	327	$1,631,167
Community First® Fund (ii)	0	0	8	$45,750,000

(i) beneficiaries are grants (ii) beneficiaries are partners *Awarded

For more information, please see **Community Investment Activities** on page 11.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Charitable

We organize, support, and participate in various community outreach events. These events include but are not limited to Step Up for Kids, which raises funds for patients at Lurie Children's Hospital; Christ the King Corporate Work-Study Program, which provides students the opportunity to work in an office building and earn about 65% of their high school tuition; and Ronald McDonald House Charities.

As part of its commitment to exemplary corporate citizenship, the Bank believes in supporting various legitimate eligible causes that are consistent with the Bank's corporate mission and business objectives, or which enhance the communities in the Bank's district. In addition to direct Bank donations to eligible organizations, the Bank will also currently match employees' contributions of more than $25 to certain organizations up to a maximum of $500 per employee.

In November 2020, the Bank announced it would donate to three charitable organizations, totaling $60,000 in support, to be decided based on employees' votes in a survey. The three charities selected by Bank employees to each receive $20,000 from the Bank were Chicago Family Health Center, My Block, My Hood, My City, and South Suburban PADS – organizations that directly assist communities disproportionately impacted by the COVID-19 pandemic and support positive change in neighborhoods throughout our district. In addition to the financial support, the Bank is identifying ways for employees to provide ongoing support to the organizations.

Diversity, Equity, and Inclusion

Diversity, equity, and inclusion are strategic business priorities for the Bank. Our Chief Diversity Officer is a member of the senior management team, reports to the President and Chief Executive Officer and serves as a liaison to the Board of Directors. We recognize that diversity increases capacity for innovation and creativity, equity ensures employees get what they need to be successful, and inclusion allows us to leverage the unique perspectives of all employees and strengthens our retention efforts. We operationalize our commitment through the development and execution of a three-year diversity, equity, and inclusion strategic plan that includes quantifiable metrics to measure our success and we report regularly on our performance to management and the Board of Directors. In addition, the FHFA's Office of Minority and Women Inclusion has adopted regulations and provides ongoing guidance, including through their annual examination, with respect to our promotion of diversity, equity, and inclusion.

We offer a range of opportunities for our employees to connect, and grow personally and professionally through our diversity, equity, and inclusion committee, working groups and employee resource groups. We consider learning an important component of our diversity, equity, and inclusion strategy and regularly offer educational opportunities to our employees and evaluate inclusive behaviors as part of our annual performance management process. The Bank also incorporates diversity, equity, and inclusion as a key component of its incentive plan framework to ensure organizational focus and accountability.

The Bank's Office of Diversity and Inclusion hosted our 3rd Annual Cultural Exploration in 2020. The five-day event was hosted virtually and focused on the roots and implications of systemic racism. Our Board of Directors, Executive Team, five randomly-selected Bank employees, and thought leaders participated in this immersive experience to discuss race as it relates to housing, employment, and access to capital, and more. At the end of each presentation, the participants discussed their own experiences and proposed solutions that will allow the Bank to actively combat systemic racism and be a leader for positive change in our district.

We are committed to supplier diversity, and strive to partner with businesses owned by minorities, women, veterans, people with disabilities, and members of the LGBTQ community. We believe our diverse suppliers are cost competitive, value strong customer service, and are dedicated to excellence. As part of our commitment to supplier diversity, over 81% of our total project spend through January 31, 2021 related to the Bank's upcoming move to the Old Post Office was with diverse vendors.

Governance

Board of Directors

Our Board of Directors is responsible for the overall management and oversight of the Bank pursuant to the Federal Home Loan Bank Act. Like each of the other Federal Home Loan Banks, our Board of Directors is composed of two types of directors: member directors and independent directors. As discussed in **Item 10. Directors, Executive Officers and Corporate Governance** on page 89, our member directors are nominated and elected by the Bank's member institutions, while our independent directors are nominated by our Board and elected by our member institutions. While we do not have a formal policy regarding Board diversity, our Board values diversity across a number of categories, including diversity of gender, race, and ethnicity, as well as professional backgrounds, when nominating independent director candidates. Of the eight independent directors serving on our Board during 2020, five were in gender and/or racially diverse categories. We believe the diverse nature of our directors enhances the oversight and governance of our Bank. For more details on our Board of Directors, please see **Item 10. Directors, Executive Officers and Corporate Governance** on page 89.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Code of Ethics and Reporting

We are committed to the highest possible standards of honesty, integrity, impartiality, and conduct. These standards are essential to our business and foster confidence in our Bank and the FHLB System. To promote these ethical standards with our employees and our vendors, we maintain a Whistleblower Policy and Procedure and the Federal Home Loan Bank of Chicago Code of Ethics.

Human Capital Resources

Our human capital is a significant contributor to the success of our strategic business objectives. In managing our human capital, the Bank focuses on its workforce profile, including the promotion of diversity, equity and inclusion as discussed above, as well as the various programs and philosophies described below.

Workforce Profile

Our workforce is primarily comprised of corporate employees, with our principal operations in one location. As of December 31, 2020, we had 466 full-time and 8 part-time employees. As of December 31, 2020, approximately 48% of our workforce is female, 52% male, 63% White, and 37% People of Color. Our workforce historically has included a number of longer-tenured employees. We strive to both develop talent from within the organization and supplement with external hires. We believe that developing talent internally results in institutional strength and continuity and promotes loyalty and commitment in our employee base, which furthers our success, while adding new employees contributes to new ideas, continuous improvement, and our goals of a diverse and inclusive workforce. As of December 31, 2020, the average tenure of our employees was 7.9 years. There are no collective bargaining agreements with our employees.

Total Rewards

We seek to attract, develop and retain talented employees to achieve our strategic business initiatives, enhance business performance and provide members a reasonable return on their investment in the Bank. We support this objective through a combination of development programs, benefits and employee wellness programs and recognizing and rewarding performance. Specifically, our programs include:

- Cash compensation that includes competitive salary and performance based incentives
- Benefits, including health insurance, life and AD&D insurance, supplemental life insurance, 401(k) retirement savings plans with employer match, and pension benefits
- Wellness program, including employee assistance program, health coaching, interactive education sessions, and sporting events sponsorship
- Time away from work, including time off for vacation, illness, personal, holiday, and volunteer opportunities
- Culture, including employee resource groups, philanthropic volunteer groups, and various diversity and inclusion initiatives
- Work/Life balance, including 100% paid salary continuation for short term disability, family leave, new child leave, military leave, bereavement, jury duty, and court appearances, flexible scheduling, and remote working options
- Development programs and training, including leadership development, educational assistance programs, internal educational and development opportunities, fee reimbursement for external educational and development programs, and incentive award goals for developmental activities
- Management succession planning, which includes the Bank's Board of Directors and leadership actively engaging in management succession planning, with a defined plan for key roles

Our performance management framework includes annual goal setting as well as mid-year and year-end performance reviews. Merit and incentive payments are differentiated for the Bank's highest performers.

We are committed to the health, safety, and wellness of our employees. In response to the COVID-19 pandemic, we have implemented significant operating environment changes, safety protocols and procedures that we determined were in the best interest of our employees and members, and which comply with government regulations. This includes having nearly all of the Bank's employees work remotely, while implementing additional safety measures for employees continuing critical on-site work.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Oversight, Audits, and Legislative and Regulatory Developments

Regulatory Oversight

We are supervised and regulated by the FHFA, an independent federal agency in the executive branch of the U.S. government. The FHFA's operating and capital expenditures are funded by assessments on the FHLBs; no tax dollars or other appropriations support the operations of our regulator. To assess our safety and soundness, the FHFA conducts annual, on-site examinations as well as periodic on-site reviews. Additionally, we are required to submit monthly financial information on our condition and results of operations to the FHFA.

The Government Corporations Control Act, to which we are subject, provides that before a government corporation issues and offers obligations to the public, the Secretary of the Treasury (Secretary) shall prescribe the form, denomination, maturity, interest rate, and conditions of the obligations, the method and time issued, and the selling price. The FHLB Act also authorizes the Secretary discretion to purchase consolidated obligations up to an aggregate principal amount of $4.0 billion. No borrowings under this authority have been outstanding since 1977.

We must submit annual management reports to Congress, the President, the Office of Management and Budget, and the Comptroller General. These reports include a statement of financial condition, a statement of operations, a statement of cash flows, a statement of internal accounting and administrative control systems, and the report of the independent public accounting firm on our financial statements.

Our business is subject to extensive regulation and supervision. As discussed throughout this Form 10-K, the laws, regulations, and regulatory guidance to which we are subject cover all key aspects of our business, and directly and indirectly affect our product and service offerings, collateral practices, pricing, competitive position and strategic plan, relationship with members and third parties, capital structure, cash needs and uses, and information security. As a result, such laws and regulations have a significant effect on key drivers of our results of operations, including, for example, our capital and liquidity, product and service offerings, risk management, and costs of compliance. For a discussion of risks relating to the complex body of laws and regulations to which we are subject, see **Risk Factors** on page 23. For a discussion of recent regulatory and legislative developments impacting us, see **Recent Legislative and Regulatory Developments** on page 18.

Regulatory Audits

The Comptroller General has authority under the FHLB Act to audit or examine us and to decide the extent to which we are fairly and effectively fulfilling the purposes of the FHLB Act. Furthermore, the Government Corporations Control Act provides that the Comptroller General may review any audit of the financial statements conducted by an independent registered public accounting firm. If the Comptroller General conducts such a review, then the results and any recommendations must be reported to the Congress, the Office of Management and Budget, and the FHLB in question. The Comptroller General may also conduct a separate audit of any of our financial statements.

Recent Legislative and Regulatory Developments

FDIC Brokered Deposits Restrictions

On January 22, 2021, the FDIC published a final rule, effective April 1, 2021, that amends its brokered deposits regulations that apply to less than well-capitalized insured depository institutions. The FDIC stated that the amendments are intended to modernize and clarify the FDIC's brokered deposit regulations and they establish a new framework for analyzing the deposit broker definition, which determines whether deposits placed through deposit placement arrangements qualify as brokered deposits. These deposit placement arrangements include those between insured depository institutions and third parties, such as financial technology companies, for a variety of business purposes, including access to deposits. The amendments to the FDIC's brokered deposit regulations, among other things, clarify what it means to be engaged in the business of facilitating the placement of deposits and expand the scope of the primary purpose exception. The rule amendments are expected to have the effect of narrowing the definition of deposit broker and excluding more deposits from treatment as brokered deposits. The amendments also establish an application and reporting process with respect to the primary purpose exception for businesses that do not meet one of several bright-line tests, and they affirm the FDIC's position that the brokering of certificates of deposit constitutes deposit brokering.

This rule may have an effect on member demand for certain advances, but we cannot predict the extent of the impact. At this time, we do not expect this rule to materially affect our financial condition or results of operations.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

United States Department of Treasury (Treasury) and Federal National Mortgage Association (Fannie Mae) Preferred Stock Purchase Agreement Amendment

On January 14, 2021, Treasury and Fannie Mae entered into a letter agreement amending the terms of their Preferred Stock Purchase Agreement (PSPA) which could impact PFIs that participate in the MPF Program's MPF Xtra product (where MPF loans acquired are concurrently sold to Fannie Mae). Under the PSPA, Treasury provides liquidity to Fannie Mae in exchange for senior preferred stock. Under the recent PSPA amendment, effective January 1, 2022, the FHFA (acting as conservator for Fannie Mae) and Treasury agreed to limit the dollar volume of loans Fannie Mae could purchase from a single seller through Fannie Mae's cash window to $1.5 billion per year. As administrator of the MPF Program, the Bank purchases MPF Xtra loans from PFIs and sells them to Fannie Mae via the cash window process. Based on volumes for the MPF Xtra product program-wide in 2020, the PSPA amendment would significantly curtail MPF Xtra cash window sales.

Although we do not currently expect this amendment to have a material impact on our financial condition or results of operations, it may negatively impact the volume of loans that PFIs are able to sell through the MPF Program unless we are successful in our efforts to develop a solution.

Margin and Capital Requirements for Covered Swap Entities

On July 1, 2020, the Office of the Comptroller of the Currency (OCC), the Federal Reserve Board (Federal Reserve), the Federal Deposit Insurance Corporation (FDIC), the Farm Credit Administration, and the FHFA (collectively, Prudential Banking Regulators) jointly published a final rule, effective August 31, 2020, amending regulations that established minimum margin and capital requirements for uncleared swaps for covered swap entities under the jurisdiction of the Prudential Banking Regulators (Prudential Margin Rules). In addition to other changes, the final rule: (1) allows swaps entered into by a covered swap entity prior to an applicable compliance date to retain their legacy status and not become subject to the Prudential Margin Rules in the event that the legacy swaps are amended to replace an interbank offered rate (such as LIBOR) or other discontinued rate, or due to other technical amendments, notional reductions or portfolio compression exercises; (2) introduces a new Phase 6 compliance date for initial margin requirements for covered swap entities and their counterparties with an average daily aggregate notional amount (AANA) of uncleared swaps from $8 billion to $50 billion; and (3) clarifies that initial margin (IM) trading documentation does not need to be executed prior to the parties becoming obligated to exchange IM.

On the same date, the Prudential Banking Regulators published an interim final rule, effective September 1, 2020, extending the IM compliance date for Phase 6 counterparties to September 1, 2022.

On November 9, 2020, the CFTC published a final rule extending the IM compliance date for Phase 6 counterparties to September 1, 2022, thereby aligning with the Prudential Banking Regulators. Further, on January 5, 2021, the CFTC published a final rule, effective February 4, 2021, that primarily amends the minimum margin and capital requirements for uncleared swaps under the jurisdiction of the CFTC (CFTC Margin Rules) by requiring covered entities to use a revised AANA calculation starting on September 1, 2022. The amendments, among other things, require entities subject to the CFTC's jurisdiction to calculate the AANA for uncleared swaps during March, April and May of the current year, based on an average of month-end dates, as opposed to the previous requirement which required the calculation of AANA during June, July and August of the prior year, based on daily calculations. Parties would continue to be expected to exchange IM based on the AANA totals as of September 1 of the current year. These amendments align with the recommendation of the Basel Committee on Banking Supervision and Board of the International Organization of Securities Commissions. Separately, on January 25, 2021, the CFTC published a final rule, effective February 24, 2021, that amends the CFTC Margin Rules to permit, among other changes, covered swap entities to maintain separate minimum transfer amounts (MTA) for IM and variation margin for each swap counterparty, provided the combined MTA does not exceed $500,000.

We do not expect these rules to have a material effect on our financial condition or results of operations.

FHFA Final Rule on FHLB Housing Goals Amendments

On June 25, 2020, the FHFA published a final rule, effective August 24, 2020, amending the FHLB housing goals regulation. Enforcement of the final rule will phase in over three years. The final rule replaces the four existing retrospective housing goals with a single prospective mortgage purchase housing goal target in which 20% of Acquired Member Asset (AMA) mortgages purchased in a year must be comprised of loans to low-income or very low-income families, or to families in low-income areas. The final rule also establishes a separate small member participation housing goal with a target level in which 50% of the members selling AMA loans in a calendar year must be small members. The final rule provides that an FHLB may request FHFA approval of alternative target levels for either or both of the goals. The final rule also establishes that housing goals apply to each FHLB that acquires any AMA mortgages during a year, eliminating the existing $2.5 billion volume threshold that previously triggered the application of housing goals for each FHLB.

We do not believe these changes will have a material effect on our financial condition or results of operations.

FHFA Final Rule on Stress Testing

On March 24, 2020, the FHFA published a final rule, effective upon issuance, to amend its stress testing rule, consistent with section 401 of the Economic Growth, Regulatory Relief, and Consumer Protection Act of 2018 (EGRRCPA). The final rule (i) raises the minimum threshold for entities regulated by the FHFA to conduct periodic stress tests from $10 billion to $250 billion or more in total consolidated assets; (ii) removes the requirements for FHLBs to conduct stress testing; and (iii) removes the adverse scenario from the list of required scenarios. FHLBs are currently excluded from this regulation because no FHLB has total consolidated assets over $250 billion, but the FHFA reserved its discretion to require an FHLB with total consolidated assets below the $250 billion threshold to conduct stress testing. These amendments align the FHFA stress testing rule with rules adopted by other financial institution regulators that implement the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) stress testing requirements, as amended by EGRRCPA.

This rule eliminates these stress testing requirements for the Bank, unless the FHFA exercises its discretion to require stress testing in the future. We do not expect this rule to have a material effect on our financial condition or results of operations.

FHLB Membership Request for Input

On February 24, 2020, the FHFA issued a Request for Input on FHLB membership (the Membership RFI). The Membership RFI, as part of a holistic review of FHLB membership, seeks public input on whether the FHFA's existing regulation on FHLB membership, located at 12 CFR part 1263, remains adequate to ensure: (i) the FHLB System remains safe and sound and able to provide liquidity to members in a variety of conditions; and (ii) the advancement of the FHLBs' housing finance and community development mission. The FHFA sought input on several broad questions relating to FHLB membership requirements, as well as on certain more specific questions related to the implementation of the current membership regulation. Responses were due on June 23, 2020.

While it is uncertain what actions, if any, the FHFA will take as a result of the responses received from the Membership RFI, any rulemaking actions to update the current FHLB membership regulation may impact FHLB membership eligibility or requirements, and ultimately our business, business opportunities, and results of operation.

FHFA Advisory Bulletin 2020-01 Federal Home Loan Bank Risk Management of AMA Risk Management

On January 31, 2020, the FHFA released guidance on risk management of AMA. The guidance communicates the FHFA's expectations with respect to an FHLB's funding of its members through the purchase of eligible mortgage loans and includes expectations that an FHLB will have board-established limits on AMA portfolios and management-established thresholds to serve as monitoring tools to manage AMA-related risk exposure. The guidance provides that the board of an FHLB should ensure that the bank serves as a liquidity source for members, and an FHLB should ensure that its portfolio limits do not result in the FHLB's acquisition of mortgages from smaller members being "crowded out" by the acquisition of mortgages from larger members. The advisory bulletin contains the expectation that the board of an FHLB should set limits on the size and growth of portfolios and on acquisitions from a single participating financial institution. In addition, the guidance provides that the board of an FHLB should consider concentration risk in the areas of geographic area, high-balance loans, and in third-party loan originations.

We do not expect this guidance to materially affect our financial conditions or results of operations, although it may limit our ability to provide secondary market liquidity to our PFI members under certain market conditions, including in the event of rapid growth of our AMA portfolio and/or a significant reduction in our advances balances.

LIBOR Transition

FHFA Supervisory Letter - Planning for LIBOR Phase-Out

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

FHFA for LIBOR-linked products serving compelling mission, risk mitigating, and/or hedging purposes that do not currently have readily available alternatives. We have already ceased purchasing investments that reference LIBOR and mature after December 31, 2021. In addition, we previously ceased entering into option embedded advance products that reference LIBOR and have suspended transactions in certain structured advances and advances with terms directly linked to LIBOR that mature after December 31, 2021. Also as of July 1, 2020, we no longer enter into consolidated obligation bonds and derivatives with swaps, caps, or floors indexed to LIBOR that terminate after December 31, 2021.

As a result of the market volatility experienced during 2020 due in part by the COVID-19 pandemic, the FHFA extended the FHLBs' authority to enter into LIBOR-based instruments that mature after December 31, 2021 from March 31, 2020 to June 30, 2020, except for investments and option embedded products. In addition, the FHFA extended the requirement to update pledged collateral certification reporting requirements from March 31, 2020, to September 30, 2020.

We continue to evaluate the potential impact of the LIBOR Supervisory Letter and the related subsequent guidance on our financial condition and results of operations, but we may experience lower overall demand or increased costs for our advances, which in turn may negatively impact the future composition of our balance sheet, capital stock levels, core mission asset ratio, net income and dividend.

LIBOR Transition – ISDA 2020 IBOR Fallbacks Protocol and Supplement to the 2006 ISDA Definitions

On October 23, 2020, the International Swaps and Derivatives Association, Inc. (ISDA), published a Supplement to the 2006 ISDA Definitions (Supplement) and the ISDA 2020 Interbank Offered Rate (IBOR) Fallbacks Protocol (Protocol). Both the Supplement and the Protocol took effect on January 25, 2021. On that date, all legacy bilateral derivative transactions subject to Protocol-covered agreements (including ISDA agreements) that incorporate certain covered ISDA definitional booklets and reference a covered IBOR, including U.S. Dollar LIBOR, were amended to apply the new ISDA-recommended IBOR fallbacks in the event of the relevant IBOR's cessation. To the extent our counterparties do not adhere to the Protocol, it will be necessary to bilaterally amend legacy covered agreements (including ISDA agreements) to address LIBOR fallbacks. The Protocol will remain open for adherence after the effective date. As of January 25, 2021, all new derivative contracts are subject to the relevant IBOR fallbacks set forth in the Supplement.

On October 21, 2020, the FHFA issued a Supervisory Letter to the FHLBs that required each FHLB to adhere to the Protocol by December 31, 2020, and to the extent necessary, to amend any bilateral agreements regarding the adoption of the Protocol by December 15, 2020.

We adhered to the Protocol on October 23, 2020. For a discussion of the potential impact of the LIBOR transition, refer to **LIBOR Transition** on page 56 and **Risk Factors**, starting on page 23.

COVID-19 Developments

FHFA Supervisory Letter – Paycheck Protection Program (PPP) Loans as Collateral for FHLB Advances

On April 23, 2020, the FHFA issued a Supervisory Letter (PPP Supervisory Letter) permitting the FHLBs to accept PPP loans as collateral for advances as "Agency Securities," given the Small Business Administration's (SBA) 100 percent guarantee of the unpaid principal balance. On April 20, 2020, the SBA published its third interim final rule related to PPP loans, which explicitly waived certain regulatory requirements that must be satisfied before a member could pledge PPP loans to the FHLBs as collateral. The PPP Supervisory Letter establishes a series of conditions under which the FHLBs may accept PPP loans as collateral, which conditions focus on the financial condition of members, collateral discounts, and pledge dollar limits.

On December 27, 2020, the President signed into law an extension of the PPP until March 31, 2021. On April 23, 2020, following the FHFA's issuance of the PPP Supervisory Letter, we issued a member communication detailing the terms on which the Bank would accept PPP loans as collateral. The April 23, 2020 Supervisory Letter from the FHFA allowing FHLBs to accept PPP loans as collateral remains in effect.

Federal Reserve Lending Facilities. The Federal Reserve announced on November 30, 2020 that certain of its lending facilities scheduled to expire would be extended through March 31, 2021.

CARES Act

The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was signed into law on March 27, 2020. The $2.2 trillion package was the largest stimulus bill in U.S. history. The CARES Act is in addition to previous relief legislation passed by Congress in March 2020. The legislation provides the following:

- Assistance to businesses, states and municipalities.
- Creates a loan program for small businesses, non-profits and physician practices that can be forgiven through employee retention incentives.
- Provides the Secretary of Treasury authority to make loans or loan guarantees to states, municipalities, and eligible business and loosens some regulations imposed through the Dodd-Frank Act.
- Direct payments to eligible tax payers and their families.
- Expands eligibility for unemployment insurance and payment amounts.
- Includes mortgage forbearance provisions and a foreclose moratorium.

Funding for the PPP, which was created by the CARES Act, was increased with the enactment of subsequent laws, most recently by the Consolidated Appropriations Act, 2021, on December 27, 2020. While some provisions of the CARES Act have expired, others have been extended by regulatory and legislative action. Additional phases of the CARES Act or other COVID-19 pandemic relief legislation may be enacted by Congress. We continue to evaluate the potential impact of such legislation on our business, including its continued impact to the U.S. economy; impacts to mortgages held or serviced by our members and that we accept as collateral; and the impacts on our MPF program.

Additional COVD-19 Presidential, Legislative and Regulatory Developments

In light of the COVID-19 pandemic, the former and current Presidents, through executive orders, governmental agencies, including the SEC, OCC, Federal Reserve, FDIC, National Credit Union Administration, CFTC and the FHFA, as well as state governments and agencies, have taken, and may continue to take, actions to provide various forms of relief from, and guidance regarding, the financial, operational, credit, market, and other effects of the pandemic, some of which may have a direct or indirect impact on us or our members. Many of these actions are temporary in nature. We continue to monitor these actions and guidance as they evolve and to evaluate their potential impact on us.

Taxation and AHP Assessments

We are exempt, by statute, from all federal, state, and local taxation except for real estate property taxes, which are a component of our lease payments for office space or on real estate we own as a result of foreclosure on MPF Loans. In lieu of taxes, we set aside funds for our AHP at a calculated rate of 10% of income before assessments. For details on our assessments, see **Note 11 - Affordable Housing Program** to the financial statements.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 1A. Risk Factors.

Business Risks

The coronavirus disease 2019 (COVID-19) pandemic, its impact on the economy and markets, and the resulting government measures, could have a material adverse effect on our business, results of operations, and financial condition.

The COVID-19 pandemic has caused, and is likely to continue to cause, significant volatility and disruption in the international and U.S. financial markets and closure of many businesses, leading to increased unemployment. Adverse economic trends as a result of the impact of the COVID-19 pandemic could materially: reduce the value of collateral pledged to secure member credit; increase credit losses, including as a result of increased forbearances granted by Bank members and PFIs to borrowers, or as a result of mortgage servicer failures; reduce the fair value of the Bank's investments; adversely affect demand for Bank products and FHLB debt; affect our ability to maintain an appropriate liquidity and funding balance between our financial assets and liabilities; and cause our derivative or Federal Fund counterparties, or our counterparties for securities purchased under agreements to resell, to fail to meet their obligations to us. The effects of the COVID-19 pandemic on overall funding costs may continue to cause compression in net interest margin if returns on our liquidity asset portfolio also decline. Economic uncertainty resulting from the COVID-19 pandemic may also increase the risk of loss in our Fannie Mae DUS bond investments if default on the underlying loans results in increased prepayments of these bonds by Fannie Mae. Since any such prepayment can be made without a prepayment premium, the Bank may suffer losses as it unwinds the related hedging swaps in a low rate environment. If economic and market conditions deteriorate, the Bank's financial condition, results of operation, ability to pay dividends, meet dividend guidance, or redeem or repurchase capital stock could be adversely impacted.

To mitigate the adverse effects of the COVID-19 pandemic, the U.S. federal government and its agencies have instituted various responsive policies and actions. Any such actions and policies, including fiscal stimulus, Federal Reserve rate cuts, the continuation of a low rate environment, and/or any future negative rate environment, may directly and indirectly influence: interest rates on the Bank's assets and liabilities; the cost or demand for FHLB debt or advances; or prepayment on our MPF Loans and investments with associated reinvestment risks, which could adversely affect our financial condition, results of operations, and ability to pay dividends. Additionally, the Federal Reserve's emergency actions to increase liquidity, along with market conditions resulting from the COVID-19 pandemic, have resulted in lower demand for new advances from our depository members and prepayment of their existing advances. To the extent this trend continues or escalates, our financial condition and results of operation could be adversely impacted. Moreover, new or modified legislation enacted by Congress or regulations or guidance adopted by the FHFA or other agencies could have a negative effect on our and our members' ability to conduct business or the costs of doing business.

The extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations is unpredictable. There is uncertainty in: the pandemic's scope and duration, and any resulting economic consequences; the continued effectiveness of our business continuity plan (which currently primarily leverages work-from-home arrangements that are dependent on third party providers of phone and internet services that vary by worker); the direct and indirect impact on our workforce and board of directors, our members, our counterparties and service providers, as well as other market participants; any governmental authorities and other third parties' actions taken in response to the COVID-19 pandemic; the pace of recovery when the pandemic subsides; and the long-term impact of the pandemic on our and our members' businesses. Adverse developments with respect to any of these factors could have a material adverse impact on the Bank's financial condition and results of operation.

Our business and results of operations may be adversely affected by the U.S housing and mortgage markets, as well as other economic conditions, and related U.S. government policies.

Our business and results of operations are sensitive to the U.S. housing and mortgage markets, as well as international, domestic and district-specific markets and other economic conditions. For example, adverse trends in the mortgage lending sector and residential real estate sector, including declines in housing prices or deterioration in loan performance trends, could reduce the value of collateral pledged to secure member credit. These trends could also lead to a reduction in the fair value of the Bank's investments and MPF Loan portfolio, could adversely affect demand for Bank products, and could cause members to default on their credit obligations to us. Moreover, adverse trends in employment levels, a slowdown in regional or national economic activity, geopolitical instability, trade disruptions, or a sustained capital market correction could adversely affect overall economic conditions, and in turn result in adverse consequences in our or our members' businesses. If economic and market conditions deteriorate, the Bank's financial condition, results of operation, ability to pay dividends, meet dividend guidance, or redeem or repurchase capital stock could be adversely impacted.

Our business and results of operations are also affected by the fiscal and monetary policies and actions of the federal government and its agencies in response to adverse economic conditions, including the Federal Reserve, which regulates of the

supply of money and credit in the United States. Any federal government actions and policies, including rate cuts or stimulus measures/quantitative easing programs, may directly and indirectly influence interest rates on the Bank's assets and liabilities, the demand for FHLB debt or advances, or prepayment on our MPF Loans and investments with associated reinvestment risks, which could adversely affect our financial condition, results of operations, and ability to pay dividends. Additionally, federal government actions like the recent U.S. Department of Treasury and Fannie Mae letter agreement, as further discussed in **Recent Legislative and Regulatory Developments** on page 18 may impact our MPF Program.

The Bank and our members are subject to and affected by a complex body of laws and regulations, which could change or be applied in a manner detrimental to our business operations, and adversely affect our financial condition.

We are a GSE organized under the authority of the FHLB Act and are governed by Federal laws and the regulations of the FHFA. From time to time, changes in legislation have significantly affected the FHLBs and their business operations. New or modified legislation enacted by Congress or regulations or guidance adopted by the FHFA or other agencies could have a negative effect on our ability to conduct business (including our ability to adapt to changing conditions) or our costs of doing business.

The FHFA's extensive regulatory authority over the FHLBs includes the authority to liquidate, merge, consolidate, or redistrict the FHLBs. With respect to an FHLB merger or consolidation, members will be subject to the terms and conditions of any plan of merger and/or terms established or approved by the FHFA. Likewise, members' rights in a liquidation will be subject to approval of the FHFA and may be inconsistent with our capital plan. The FHFA also has authority over FHLB liquidity and capital requirements, and authority over the scope of permissible FHLB products and activities (including the authority to impose limits on those products and activities). We cannot predict the extent to which future FHFA rule changes or guidance could impact our business or our members.

Changes in our statutory or regulatory requirements or policies or in their application could result in changes in, among other things, our membership base; our cost of funds; liquidity requirements; retained earnings and capital requirements; accounting policies; debt issuance limits; dividend payment limits; the form of dividend payments; capital redemption and repurchase limits; permissible business activities; product pricing and structure; collateral practices; compliance requirements; operational processes; and the size, scope, or nature of our lending, investment and MPF Program activities; or how we manage our balance sheet; all and any of which could be detrimental to our business operations and financial condition.

In addition, as Congress and the Administration continue to consider reforms to the U.S. housing finance system, including the resolution of Fannie Mae and Freddie Mac, any legislative proposals or administrative actions could directly or indirectly impact GSEs that support the U.S. housing market, including the FHLBs. Also, there are additional uncertainties in the legislative and regulatory environment resulting from the change in Administrations and the Congress.

Moreover, new or modified legislation or regulations governing or impacting our members and counterparties may affect our ability to conduct business or cost of doing business. See **Recent Legislative and Regulatory Developments** on page 18 for more information about recent regulatory developments.

We face competition for advances, which could adversely affect our business.

Our primary business is making advances to members. We compete with other suppliers of wholesale funding, both secured and unsecured, including investment banks, commercial banks, the Federal Reserve, and, in certain circumstances, other FHLBs with which members have a relationship through affiliates. Changes to legislation or regulations affecting our members, changes to our members' business models, or the availability of alternative funding sources, may negatively affect our advance levels. Moreover, if we are unable to structure our advance products, collateral requirements, and pricing to satisfy the specific funding requirements of all members, our members may turn to other sources of liquidity and our advance levels could decrease.

We may make changes in policies, programs, and agreements affecting members' access to advances and other credit products, the MPF Program, the AHP, and other programs, products, and services. As a result, some members may choose to obtain financing from alternative sources. Further, many competitors are not subject to the same regulations as us, which may enable those competitors to offer products and terms that we are not able to offer. Any change made in pricing our advances to compete with these alternative funding sources may decrease our profitability on advances. Additionally, as we manage our refunding risk and maintain compliance with our liquidity requirements and other regulatory guidance, any resulting increase in advance pricing may decrease demand for our advances. State and federal regulators' perception of the stability and reliability of our advances can also directly impact the amount of advances used by our members. A decrease in advance demand or a decrease in profitability on advances could adversely impact our financial condition and results of operations.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Our and our members' inability to adapt products and services to evolving industry standards and customer preference amid a highly competitive and regulated landscape, while managing expenditures, could harm our business.

Our and our members' success depend on the ability to adapt products and services to evolving industry standards and to meet customer needs, particularly amid a highly competitive and regulated landscape that may impact our and our members' ability to effectively respond to changing market conditions. The widespread adoption of new technologies could require substantial expenditures. If we or our members are unable to adopt new technologies or improve our technological capabilities, including retention of key technology personnel and the development of necessary operating and management processes, we and our members may not be able to remain competitive and our businesses, financial conditions, and results of operations may be significantly compromised. We and our members are also faced with increasing operating costs in managing cybersecurity risks. We and our members may not be successful in developing or introducing new products, systems, and services to keep pace with larger competitors, in integrating new products, systems, or services into existing platforms, in responding or adapting to changes in customer behavior or preferences, and in reducing costs, all of which may harm our business and results of operations.

The loss of, or change of business activities with, significant members could result in lower demand for our products and services, and negatively impact our financial condition and results of operation.

Due to the nature of our charter, membership in our Bank is generally limited to federally-insured depository institutions, insurance companies, credit unions and community development financial institutions in Illinois and Wisconsin. Given this limitation in membership eligibility, a loss of members or decreased business activities with large members could negatively impact our financial condition and results of operation.

At December 31, 2020, our five largest advance borrowers held 49.9% of total advances outstanding. Advance balances with our largest members and our other members could change due to factors such as a change in member demand or borrowing capacity, regulatory changes, market conditions, or the competitive factors discussed herein or otherwise. If, for any reason, we were to lose our largest members, or experience sustained decreases in the business they conduct with us, including as a result of prepayments, our financial condition and results of operations could be negatively impacted.

As discussed above, the Federal Reserve's recent emergency actions to increase liquidity, along with market conditions resulting from the COVID-19 pandemic, has resulted in lower demand for advances from our large depository members and prepayment of their existing advances.

In addition, as result of regulatory changes adopted by the FHFA in 2016, our captive insurance company members had their membership terminated in February 2021. At December 31, 2020, these former captive insurance company members had $11.4 billion of advances outstanding, with a remaining weighted tenor of approximately 3 years, which constituted 25% of our outstanding advances as of December 31, 2020. Once these captive insurance company advances mature, our advance and capital stock levels could decrease if not replaced by business from other members.

Moreover, various factors, including regulatory requirements, have contributed to increased consolidation in the financial services industry, and could reduce current and potential Bank members. For example, depository institutions continue to experience consolidation due to, among other things, increased regulatory burden, greater competition from non-bank "Fintech" companies, lower interest margin, and/or higher technology costs that incentivize scale. If for any reason, we were to lose a member or members whose business and capital stock investments are significant to our business, our business operations, financial condition, and results of operations could be negatively impacted.

To the extent that the reduced demand for our products by depository members, the loss of business with our former captive insurance company members, or reduced demand as a result of further industry consolidation is not replaced by demand from our other members, or to the extent we are unable to sustain our current business with our insurance company members, our results of operations, primary mission asset ratio and supplemental mission asset ratio may be negatively impacted.

Failure to meet minimum regulatory capital requirements and guidance could affect our ability to conduct business and could adversely affect our earnings.

We are subject to certain minimum capital requirements under the FHLB Act, as amended, and the FHFA rules and regulations that include total capital, leverage capital, and risk-based capital requirements. If we are unable to satisfy our minimum capital requirements, we could 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 our capital stock. Furthermore, any suspension of dividends and/or capital stock repurchases and redemptions could decrease member confidence, which in turn could reduce advance demand and net income should members elect to use

alternative sources of wholesale funding. For further discussion of our minimum regulatory capital requirements, see **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements.

Additionally, recent FHFA guidance around our capital stock levels relative to total assets and retained earnings and dividend policy has impacted how we manage our balance sheet, which could adversely affect our business and a member's investment in our stock. For a discussion of our retained earnings and dividend policy, see **Retained Earnings and Dividend Policy** section on page 66.

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

The FHLBs are GSEs organized under the authority of the FHLB Act. Negative news articles, industry reports, and other announcements relating to any GSE could create pressure on debt pricing for all GSEs, as investors could perceive such instruments as bearing increased risk. Moreover, the scope, timing, and effect of any regulatory reform affecting the GSEs, including the ultimate resolution to the conservatorship of Fannie Mae and Freddie Mac, could have a significant effect on the FHLB system and could negatively change the perception of the risks associated with the GSEs and their debt securities. Any such negative information or other factors could result in the FHLBs having to pay a higher rate of interest on consolidated obligations to make them attractive to investors, which could negatively affect the FHLBs' results of operations or access to funding.

How successfully we are able to manage our balance sheet in the face of factors such as changes in the economic environment, changes in member demand, or increased guidance from our regulator may have a material adverse effect on our results of operations and financial condition.

If the composition of our balance sheet significantly changes in some manner, whether as a result of the economic environment or other factors like member demand, we would be presented with challenges. If we are unable to successfully maintain our balance sheet and cost infrastructure at an appropriate composition and size scaled to member demand, including as a result of the regulatory limitations described below, our results of operations and financial condition may be negatively impacted.

Regulatory guidance from the FHFA, our regulator, may have an effect on how we manage our balance sheet and cost infrastructure, and may limit our ability to effectively adapt to changing conditions. The following are examples of regulatory guidance that constrains our balance sheet management and operations:

- We are subject to a mission asset ratio requirement, as further described on page 5, which may impact our ability to make new investments through various advance demand cycles.
- We are subject to guidance providing for each FHLB to maintain a ratio of at least two percent of capital stock to total assets, which may impact how we manage our capital and investments.
- As further discussed in **Liquidity Measures** on page 54, we are subject to the Liquidity AB. Under certain market conditions, the Liquidity AB may require us to hold additional liquid assets. Maintaining large balances of liquid assets may reduce our ability to invest in higher-yielding assets, and may in turn negatively impact net interest income. Additionally, to the extent that the Bank adjusts pricing for its short-term advances and letters of credit as a result of the Liquidity AB, these products may become less competitive, which may adversely affect advance and capital stock levels as well as letters of credit levels, and ultimately our net income. Moreover, in certain circumstances, we may need to fund overnight or shorter-term investments and advances with discount notes that have maturities that extend beyond the maturities of the related investments or advances. Net interest income on investments and advances may be reduced as a result of these requirements.
- As further discussed in **Liquidity Measures** on page 54, Liquidity AB provides guidance on maintaining appropriate funding gaps, compliance with which, may increase our cost of funding, and may ultimately result in a reduction in our net interest income on investments and advances.

Limitations on the payment of dividends and repurchase of excess capital stock, any reduction in dividend levels, failure to meet our dividend guidance or the cessation of dividend guidance in the future, or future changes to our capital stock requirements may adversely affect our business.

Our business model is based on the goal of maintaining a balance between our housing mission and our objective to provide a reasonable return on our members' investment in the cooperative. We work to achieve this balance by delivering low-cost credit to help our members meet the credit needs of their communities while striving to pay a reasonable dividend on our Class B2 membership stock and a higher dividend on Class B1 activity stock in order to recognize those members that are using our products. See **Dividend Payments** on page 66.

Under FHFA regulations, the FHLBs may pay dividends on their stock only out of previously retained earnings or current net income, and our ability to pay dividends is subject to statutory and regulatory restrictions and is dependent upon our ability to continue to generate net income. Further, the level of our dividend payments is restricted by our retained earnings and dividend

policy as further described under **Retained Earnings and Dividend Policy** section on page 66. Relatedly, our ability to meet or provide any dividend guidance may be impacted by a change in financial or economic conditions, regulatory and statutory limitations, our retained earnings and dividend policy, and any other relevant factors. As a result of these factors, we may be unable to pay dividends, unable maintain a higher dividend on Class B1 activity stock, unable to meet or provide any dividend guidance, or the level of dividends could be significantly reduced.

To the extent that current and prospective members determine that our dividend and/or dividend guidance are insufficient or our ability to pay future dividends or repurchase excess capital stock becomes limited (as further discussed in the risk factor on limitations on our ability to repurchase excess stock), we may be unable to expand our membership, or lose members, or we may experience decreased member demand for products requiring capital stock purchases, which may in turn adversely affect our results of operations and financial condition.

Changes in our current capital stock requirements, the extent to which we are able to continue to offer the Reduced Capitalization Advance Program (“RCAP”) (which reduces a member’s activity stock requirement for certain advances), or the extent to which we effect future changes to our capital plan (including our capital stock requirements), may impact member utilization of the Bank, which in turn may adversely affect our results of operations and financial condition.

Our MPF Program relies on the participation of other FHLBs and their PFIs, and the loss of any such participants may impact our results and operation and business. Additionally, a decline in national mortgage originations, the competitive and highly regulated landscape, and the loss of certain PFIs in the future may negatively impact our MPF Program and the related business.

The MPF Program is a secondary mortgage market business under which we purchase mortgage loans from our PFIs and PFIs of other FHLBs for on- and off-balance sheet products (together with us, the MPF Banks). We also provide programmatic and operational support in our role as the administrator of the MPF Program on behalf of the other MPF Banks for a fee. Accordingly, the success of the program depends not only on the participation of our PFIs, but also on the participation of other MPF Banks as well as their PFIs. To the extent an insufficient number of FHLBs and their PFIs choose to participate in the MPF Program, the program may suffer losses that impact our results of operation and business.

While national mortgage originations increased in 2020, they were in a downward trend from the end of 2016 through 2018, and are expected to decline in 2021 compared to 2020. To the extent that the decline in national mortgage originations resumes, we may experience a decrease in volume available to purchase from our PFIs. In addition, PFIs may stop selling loans under the MPF Program due to mergers with or into other organizations, or as a result of market competition. To the extent a sufficient number of our PFIs experience a decline in new mortgage originations or discontinue selling under the MPF Program, and we do not gain a sufficient number of new PFIs to offset such decline or departures, we may incur a decrease in volume available to purchase from our PFIs, resulting in a decline in MPF Program volume. Moreover, our MPF Program is subject to FHFA regulation and oversight, including volume caps limiting the dollar value of loans PFIs can sell loans under the program, as well as volume caps on the dollar value of MPF Xtra loans the MPF Program can sell to Fannie Mae. Further, to the extent FHFA regulation or guidance necessitates changes to MPF Traditional loans products, this could have a negative impact on the volume of loans sold into the MPF Program. To the extent we cannot offset these limitations with increased loan purchases from other PFIs, product enhancements, or through development of new channels, our business may be negatively impacted.

During 2020, the top five PFIs, in the aggregate, accounted for 21% of our MPF on balance sheet purchases held in portfolio. To the extent we lose our business with these PFIs and cannot attract comparable replacements, our business may be adversely affected.

Restrictions on the redemption, repurchase, or transfer of our capital stock could result in an illiquid investment for the holder.

Under the GLB Act and FHFA regulations, and our Capital Plan, our capital stock is subject to redemption upon the expiration of a five-year redemption period. Only capital stock in excess of a member's or former member's minimum investment requirement that was subject to a redemption request, capital stock of a member that has submitted a notice to withdraw from membership, or capital stock held by a member whose membership has been terminated may be redeemed at the end of the applicable redemption period. Further, we may elect to repurchase excess stock from time to time at our sole discretion without regard to the five-year redemption period.

There is no guarantee that we will be able to redeem capital stock held by a shareholder even at the end of the redemption period or to repurchase excess capital stock. FHFA regulations and our capital plan restrict us from redeeming or repurchasing capital stock under certain scenarios, including in instances where the redemption or repurchase would cause us to fail to meet our minimum capital requirements. For additional information on limitations on our ability to repurchase or redeem capital stock,

see **Statutory and Regulatory Restrictions on Capital Stock Repurchase and Redemption** on page 64.

In addition, since our capital stock may only be owned by our members (or, under certain circumstances, former members and certain successor institutions), and our Capital Plan requires the Bank's approval before a member or nonmember shareholder may transfer any of its capital stock to another member or nonmember shareholder, we cannot provide assurance that a member or nonmember shareholder would be allowed to transfer any excess capital stock at any time.

For further discussion of our minimum capital requirements, see **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements.

Market Risks

Changes in interest rates or an inability to successfully manage interest-rate risk could have a material adverse effect on our net interest income.

We realize net interest income primarily from the spread between interest earned on our outstanding advances, MPF Loans, and investments less the interest paid on our consolidated obligations and other liabilities. When interest rates increase, we may experience extension risk, which is the risk that our mortgage-based investments will remain outstanding longer than expected at below-market yields. Therefore, any rapid change in interest rates could adversely affect our net interest income. Conversely, very low interest-rate environment could adversely impact us in various ways, including lower market yields on investments and faster prepayments on our MPF Loans and investments with associated premium write-offs and reinvestment risk. These risks are increased to the extent we have concentrations of high interest rates, concentrations of loan vintages or geographic concentrations. Our investment income and, in turn, our financial condition and results of operations, could be adversely impacted as a result. See **Item 7A. Quantitative and Qualitative Disclosures About Market Risk** on page 80 for additional discussion and analysis regarding our sensitivity to interest rate changes and the use of derivatives to manage our exposure to interest-rate risk.

As previously discussed, our business and results of operations are affected significantly by the fiscal and monetary policies of the U.S. government and its agencies, including the Federal Reserve Board's policies, which are difficult to predict. Therefore, our ability to anticipate changes regarding the direction and speed of interest rate changes, or to hedge the related exposures, significantly affects the success of our asset and liability management activities and our level of net interest income. We use a number of measures in our efforts to monitor and manage interest rate risk, including income simulations and duration, market value, and convexity sensitivity analyses. Given the unpredictability of the financial markets, capturing all potential outcomes in these analyses is difficult. Key assumptions include, but are not limited to, loan volumes and pricing, market conditions for our 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 will 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 have resulted in a higher level of volatility in our interest-rate risk profile and could negatively affect our ability to management interest-rate risk effectively.

We depend on the FHLBs' ability to access the capital markets in order to fund our business.

Our primary source of funds is the sale of FHLB consolidated obligations in the capital markets, including the short-term capital markets due to our continued reliance on discount note funding. Our ability to obtain funds through the sale of consolidated obligations depends in part on prevailing market conditions, such as investor demand and liquidity in the financial markets, which are beyond the control of the FHLBs. The U.S. government's financial or economic measures may also affect the FHLBs' funding costs and practices. Our ability to operate our business, meet our obligations, and generate net interest income depends primarily on the ability of the FHLB System to issue debt frequently to meet member demand and to refinance our existing outstanding consolidated obligations at attractive rates, maturities, and call features, when needed. A significant portion of our advances are issued at interest rates that reset periodically at a fixed spread to an FHLB discount note rate-based index, so member demand for such advances may decrease to the extent that the FHLB System is unable to continue to issue debt at attractive rates.

The sale of FHLB consolidated obligations can also be influenced by factors other than conditions in the capital markets, including legislative and regulatory developments, civil unrest, government actions, and the impact of government shutdowns that affect the relative attractiveness of FHLB consolidated obligations. For example, past money market fund reforms have contributed to increased demand for FHLB consolidated obligations. As policymakers examine measures intended to improve the resilience of money market funds and broader short-term funding markets, including in response to the impact of the COVID-19 pandemic, any resulting regulatory changes could decrease money market demand for FHLB consolidated obligations, and in turn could have a negative effect on our financial condition and results of operations. The FHLB System currently plays a predominant role as lenders in the federal funds market; therefore any disruption in the federal funds market or any related

regulatory or policy change may have an adverse effect on our cash management activities, results of operation, and reputation. In addition, a decrease in the level of dealer participation and support may also adversely affect liquidity in the agency debt markets and have an adverse effect on our results of operations.

Additionally, we have a significant amount of discount notes outstanding with maturities of one year or less. We are exposed to liquidity risk if there is any significant disruption in the short-term debt markets. If a disruption were prolonged, we may not be able to obtain funding on acceptable terms. Any significant disruption that would prevent us from re-issuing discount notes for an extended period of time as they mature may require us to recognize a loss of up to $65 million of currently open (as of December 31, 2020) deferred hedge costs out of accumulated other comprehensive income. Without access to the short-term debt markets, the alternative longer-term funding, if available, would increase funding costs and could cause us to increase advance rates, potentially adversely affecting demand for advances. If we cannot access funding when needed on acceptable terms, our ability to support and continue operations could be adversely affected. As a result, our inability to manage our liquidity position or our contingency liquidity plan to meet our obligations, as well as the credit and liquidity needs of our members, could adversely affect our financial condition and results of operations, and the value of FHLB membership.

The FHLBs also compete with the U.S. government, Fannie Mae, Freddie Mac, and other government-sponsored enterprises (GSEs), as well as corporate, sovereign, and supranational entities, including the World Bank, for funds raised through the issuance of unsecured debt in the domestic and global debt markets. Increases in the supply of competing debt products, such as an increased in the supply of Treasury securities, could result in higher debt costs and negatively affect demand for consolidated obligations. This could adversely affect our financial condition, results of operations, or ability to pay dividends, meet dividend guidance, or redeem or repurchase capital stock.

Our funding costs and/or access to the capital markets and demand for certain of our products could be adversely impacted by any changes in the credit ratings for FHLB System consolidated obligations or our individual credit ratings.

FHLB System 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 outlook or issue negative reports. Because all of the FHLBs have joint and several liability for all FHLB consolidated obligations, negative developments at any FHLB may affect these credit ratings or result in the issuance of a negative report regardless of the financial condition and results of operations of the other FHLBs. In addition, because of the FHLBs' GSE status, the credit ratings of the FHLB System, the FHLBs, and consolidated obligations are directly influenced by the long-term sovereign credit rating of the U.S. government. As a result, if the U.S. sovereign credit ratings or outlooks are downgraded, similar downgrades in the credit ratings or outlook of the FHLBs and FHLB System consolidated obligations would mostly likely occur even though they are not obligations of, nor guaranteed by, the United States.

Future downgrades in credit ratings or outlook may: result in higher FHLB funding costs and/or disruptions in access to the capital markets; disrupt our ability to maintain adequate liquidity; trigger additional collateral posting requirements; impact our ability to enter into derivative instruments with acceptable terms; or weaken demand for products like letters of credit. Any such events may adversely affect our financial condition and results of operations.

Changes to, and replacement of, the LIBOR benchmark interest rate could adversely affect our business, financial condition and results of operations.

In July 2017, the United Kingdom’s Financial Conduct Authority (FCA), a regulator of financial services firms and financial markets in the U.K., stated that they will plan for a phase out of regulatory oversight of LIBOR interest rate indices. The FCA has indicated they will support the LIBOR indices through 2021 to allow for an orderly transition to an alternative reference rate. On November 18, 2020, the Intercontinental Exchange Benchmark Administration Limited (IBA), LIBOR’s administrator, announced its intent to publish a consultation seeking industry feedback on its proposal to cease 1-week and 2-month USD LIBOR after December 31, 2021, and extending publication of all remaining USD LIBOR tenors through June 30, 2023. On November 30, 2020, the Federal Reserve Board, Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency issued a joint statement urging banks to cease entering into new LIBOR transactions after 2021 notwithstanding the IBA’s proposal. The IBA published its consultation on December 4, 2020, with a comment deadline of January 25, 2021. It remains unclear and difficult to predict whether and to what extent panel banks will continue to provide LIBOR submissions to the administrator of LIBOR, whether LIBOR rates will cease to be published or supported before or after 2021, or whether any additional reforms to LIBOR may be enacted in the United Kingdom or otherwise at a federal or state level in the United States with respect to USD LIBOR. As noted throughout this Form 10-K, many of the Bank’s assets and liabilities are indexed to LIBOR, some with maturities or termination dates extending past December 31, 2021.

In the United States, the Federal Reserve Board and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee (ARRC) to identify a set of alternative reference interest rates for possible use as market benchmarks. ARRC

has proposed the Secured Overnight Financing Rate (SOFR) as its recommended alternative to LIBOR. SOFR is based on a broad segment of the overnight Treasury repurchase market and is intended to be a measure of the cost of borrowing cash overnight collateralized by Treasury securities. Since 2018, market activity in SOFR-linked financial instruments continues to develop. The FHLBs, including the Bank, have offered SOFR-linked consolidated obligations on an ongoing basis and continue to offer SOFR-linked advances. The overnight Treasury repurchase market underlying SOFR has experienced and may experience disruptions from time to time, which has resulted and may result in unexpected fluctuations in SOFR. Introduction of an alternate reference rate also may create challenges in hedging and asset liability management and introduce additional basis risk and increased volatility for the Bank and other market participants. While market activity in SOFR-linked financial instruments has continued to develop, the progress has been uneven and there can be no guarantee that SOFR will become widely accepted and used across market segments and financial products in a timely and consistent manner and any other alternative reference rate may or may not be developed.

On September 27, 2019, the FHFA issued a Supervisory Letter (the "Supervisory Letter") that the FHFA stated is designed to ensure the FHLBs will be able to identify and prudently manage the risks associated with the termination of LIBOR in a safe and sound manner. Among other things, the Supervisory Letter provides that the FHLBs should cease entering into certain transactions referencing LIBOR that mature after December 31, 2021. We continue to evaluate and plan for the eventual replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as the primary replacement rate.

The market transition away from LIBOR is expected to be gradual and complicated, including the development of term and credit adjustments to accommodate differences between LIBOR and any alternative rate. There can be no assurances that we and other market participants will be appropriately prepared for an actual discontinuation of LIBOR, that existing assets and liabilities based on or linked to LIBOR will transition successfully to alternative reference rates or benchmarks, or of the timing of the cessation of LIBOR, or of the adoption and degree of integration of any alternative reference rates or benchmarks in the markets. Introduction of an alternative rate also may introduce additional basis risk for market participants including the Bank as an alternative index is utilized along with LIBOR. The discontinuation of LIBOR may have an unpredictable impact on the contractual mechanics of outstanding securities, loans, derivatives or other products, require renegotiation of outstanding contracts, impact the return on investments, or cause significant disruption to financial markets that are relevant to our business, among other adverse consequences. Additionally, any transition from current benchmarks may alter the Bank's risk profiles and models, systems, valuation tools, and effectiveness of hedging strategies, as well as increase the costs and risks related to potential regulatory requirements. Given the uncertainties, the Bank is not able to predict the impact of the transition from LIBOR on the Bank's business, financial condition, or results of operations.

(See also **LIBOR Transition** on page 56 for more details on our LIBOR transition, details on our SOFR-linked consolidated obligations and advances, and a presentation of variable rate financial instruments by interest-rate index at December 31, 2021 and additional steps we are taking in the LIBOR transition).

Credit Risks

Our financial condition and results of operations, and the value of Bank membership, could be adversely affected by our exposure to credit risk.

We are exposed to credit risk principally through advances or commitments to our members, MPF Loans and related exposures, derivatives counterparties, unsecured counterparties, repurchase agreement transactions, and issuers of investment securities or the collateral underlying them. We assume secured and unsecured credit risk exposure associated with the risk that a borrower or counterparty could default, and we could suffer a loss if we are unable to fully recover amounts owed on a timely basis. In addition, we have exposure to credit risk because fair value of collateral may decline as a result of deterioration in the creditworthiness of the obligor or the credit quality of a security instrument (whether due to economic conditions or otherwise), or because the value of the collateral may not be what we assigned to it (whether as a result of misrepresentation or inaccurate valuation). We have a high concentration of credit risk exposure to financial institutions and mortgage assets. If we have insufficient collateral before or after an event of default, or we are unable to liquidate the collateral for the value assigned to it in the event of default, we could experience a credit loss, which could adversely affect our financial condition and results of operations.

We follow guidelines established by our Board of Directors and the FHFA on unsecured extensions of credit, which limit the amounts and terms of unsecured credit exposure to highly rated counterparties, the U.S. government, other FHLBs, and partners of our Community First Fund. However, there can be no assurance that these activities will prevent losses due to defaults on these assets.

Advances. To the extent our members are under financial stress, we are exposed to the risk that they may default on their outstanding obligations to us, including the repayment of advances. If a member defaults on its obligations, or the FDIC, or any other applicable receiver, fails either to promptly repay all of that failed institution's obligations or to assume the outstanding advances, then we 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. 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 outstanding obligations to us could adversely affect our results of operations and financial condition.

As we continue to work toward building a stronger cooperative and increasing advances by adding new members or expanding borrowings with existing members, we are actively focusing on institutions that have not traditionally been a large part of our borrowing base, such as insurance companies, community development financial institutions, and housing associates. As we increase our membership to include more non-federally insured members and increase credit outstanding to such members, we face uncertainties surrounding the possible resolution of those members, in part due to our lack of experience in dealing with their regulators and any receivers and other liquidators that may be involved in the resolution of these members.

Also, as we update our collateral loan eligibility criteria to accept more complex loan structures and additional commercial loan property types, we face risks relating to valuing and liquidating collateral with these characteristics. Although we will closely monitor our credit and collateral agreement processes, we may experience credit losses and our business may be adversely affected if we are unable to sufficiently collateralize our risk exposures in the event of potential default by or resolution of these members.

Derivatives Counterparties. Our hedging strategies are highly dependent on our ability to enter into cleared and uncleared (over-the-counter) derivative instrument transactions with counterparties on acceptable terms to reduce interest-rate risk and funding costs.

If we experience disruptions in the credit markets, it may increase the likelihood that one of our derivatives counterparties fails to meet their obligations to us. If a counterparty defaults on payments due to us, we may need to enter into a replacement derivative contract with a different counterparty, which may be at a higher cost, or we may be unable to obtain a replacement contract. Additionally, the insolvency of one of our largest derivatives counterparties combined with an adverse change in the market before we are able to transfer or replace the derivative contracts could adversely affect our financial condition and results of operations. We may also be exposed to collateral losses to the extent that we have pledged collateral and its value changes, or could experience losses if the counterparty fails to return the collateral. Additionally, we may be exposed to losses stemming from the replacement of the underlying LIBOR benchmark on LIBOR-linked derivatives to a replacement risk-free rate benchmark, such as SOFR, following cessation or non-representativeness of LIBOR in 2021 or thereafter. Losses from any of the foregoing could negatively affect our financial condition and results of operations and the value of FHLB membership.

Federal Funds. We invest in Federal Funds sold in order to ensure the availability of funds to meet members' credit and liquidity needs. Because these investments are unsecured, our credit policies and FHFA regulations restrict these investments to short-term maturities and certain eligible counterparties. If the credit markets experience disruptions, it may increase the likelihood that one of our Federal Funds counterparties could experience liquidity or financial constraints that may cause them to become insolvent or otherwise default on their obligations to us. For further discussion on our Federal Funds investments, see **Unsecured Short Term Investments** on page 77.

Securities Purchased Under Agreements to Resell. We also invest in securities purchased under agreements to resell in order to ensure the availability of funds to meet members' liquidity and credit needs. These investments are secured by marketable securities held by a third party custodian. If the credit markets experience disruptions, it may increase the likelihood that one of our counterparties could experience liquidity or financial constraints that may cause them to become insolvent or otherwise default on their obligations to us. If the collateral pledged to secure those obligations has decreased in value, we may suffer a credit loss. See the table in **Investment Debt Securities** on page 76 for a summary of counterparty credit ratings for these investments.

Our MPF Program products have different risks than those related to our traditional advances products, which could adversely impact our results of operations.

The MPF Program, as compared to our advances products, is more susceptible to credit losses. To the extent that economic conditions weaken and regional or national home prices decline, we could experience higher delinquency levels and loss severities on our MPF Loan portfolio in the future.

We are exposed to losses on our conventional MPF Loans held in our portfolio through our obligation to absorb losses up to the FLA and to the extent those losses are not recoverable from PFIs from withholding performance-based CE Fees (Recoverable CE Fees). Our FLA exposure as of December 31, 2020 is $148 million. The next layer of losses after the FLA is allocated to the PFI, or SMI, as applicable, through the CE Amount. If losses accelerate in the overall mortgage market, we may experience increased losses that are allocated to us through the FLA or that may otherwise exceed the PFI's CE Amount and Recoverable CE Fees. Further, the PFIs may experience credit deterioration and default on their CE Amount, which, to the extent not offset against collateral provided by the PFIs, could cause us to incur additional losses and have an adverse effect on our results of

operations.

Under the MPF Government product, we absorb any associated credit losses if we are unable to recover from the servicer or the insuring or guarantying government agency. We have the same risk with respect to the MPF Government MBS loans we acquired from our members or PFIs of other MPF Banks.

We also have geographic concentrations of MPF Loans secured by properties in certain states. To the extent that any of these geographic areas experience significant declines in the local housing markets, regional economic conditions, or a natural or man-made disaster, we could experience increased losses. For further information on these concentrations, see **Geographic Concentration** on page 74.

For a description of the MPF Program, our obligations with respect to credit losses and the PFI's obligation to provide credit enhancement and comply with anti-predatory lending laws, see **Mortgage Partnership Finance Program** on page 8.

We are jointly and severally liable for the consolidated obligations of other FHLBs.

Under the FHLB Act, we are jointly and severally liable with other FHLBs for consolidated obligations issued through the Office of Finance. If another FHLB defaults on its obligation to pay principal or interest on any consolidated obligation, the FHFA has the ability to allocate the outstanding liability among one or more of the remaining FHLBs on a pro rata basis or on any other basis that the FHFA may determine. The likelihood of triggering our joint and several liability obligation depends on many factors, including the financial condition and financial performance of the other FHLBs. If we were required by the FHFA to make payment on consolidated obligations beyond our primary obligation, our financial condition, and results of operations could be negatively affected.

The occurrence of weather-related events, other natural or environmental disasters, health emergencies, or other disruptive events, especially one affecting our district and/or members in our district, could negatively impact our business and results of operations. Relatedly, climate change could have a material adverse impact on our members and our business operations.

The occurrence of weather-related events, other natural or environmental disasters, terrorist attacks, civil unrest, health emergencies, pandemics, or other disruptive events (any such event, a “major disruptive event”), especially one affecting our district, could negatively impact our business and results of operations. A major disruptive event that damages or destroys real estate securing mortgage loans, or negatively impacts the ability of borrowers to continue to make principal and interest payments on mortgage loans, or negatively impacts our members’ business could increase delinquency rates and default rates, and negatively impact our collateral, MPF Loan portfolio, MBS or other investment portfolios, community investment programs, or cause our members to become delinquent or to default on their advances and other credit obligations to us. A decline in the local economies in which our members operate resulting from a major disruptive event could reduce members’ needs for funding, which could reduce demand for our advances. The nature and level of these major disruptive events and the impact of global climate change upon their frequency and severity cannot be predicted. If major disruptive events occur, they may have a material effect on our financial condition or results of operations.

Relatedly, the Bank’s business, and the activities of its members, could be disrupted by climate change. Potential physical risks from climate change may include adverse weather-related events and environmental disasters as described above. In addition, these physical changes may prompt changes in regulations or consumer preferences, which in turn could have negative consequences for the business models of the Bank and its members. The Bank and its members will need to respond to any new laws and regulations, as well as consumer and business preferences resulting from climate change concerns. The Bank and its members may face cost increases, asset value reductions, operating and modeling process changes, and the like. The Bank could experience a drop in demand for its products and services. In addition, the Bank could face reductions in creditworthiness on the part of some members or counterparties or in the value of Bank investments or loans pledged as collateral or acquired through our MPF Program.

Operational Risks

We rely on quantitative models to manage risk, to make business decisions, and to value our assets and liabilities. Our business could be adversely affected if those models fail to produce reliable results.

We make significant use of both internal and external business and financial models to measure and monitor our risk exposures; including interest rate, prepayment, and other market risks, as well as credit risk. We also use 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 and dividend guidance. Models are inherently imperfect predictors of actual results. We use assumptions to predict interest rates, prepayment speeds, default rates, severity rates, and other factors that may overstate or understate future experience. When market conditions change rapidly and dramatically, the assumptions used for our models may not keep pace with changing conditions. Inaccurate data or assumptions in these models are likely to produce unreliable results. For example, uncertainty in the housing and mortgage markets may increase our exposure to the inherent risks associated with the reliance on internal models that use key assumptions to project future trends and performance. Although we regularly adjust our internal models in response to changes in economic conditions and the housing market and rely on our vendors to adjust our external models, the risk remains that our models could produce unreliable results or estimates that vary considerably from actual results.

If these models fail to produce reliable results, we may not make appropriate risk management or business decisions (including decisions relating to our dividend guidance), which could adversely affect our earnings, liquidity, capital position, reputation, and financial condition. Any strategies that we employ to attempt to manage the risks associated with the use of models may not be effective.

Failures or interruptions in our information systems and other technology, our controls, or our operating processes generally, may harm our business, financial condition, results of operations, and reputation.

Our business is dependent upon our ability to interface effectively with other FHLBs, members, PFIs, and other third parties. Our products and services involve a complex and sophisticated operating environment supported by operating systems and technologies, which may be purchased, custom-developed, or hosted by third parties. Maintaining the availability, effectiveness, and efficiency of the technology used in our operations, including our information systems, is dependent on the continued timely implementation of technology solutions and improvements (including software updates and security patches) and systems necessary to effectively manage the Bank and mitigate risks, which may require significant capital expenditures. If we are unable to maintain or improve these technological capabilities, including retention of key technology personnel and the development of necessary operating and management processes, we may not be able to remain competitive and our business, financial condition, and results of operations may be significantly compromised. To date, we have not experienced any material effect or losses related to significant interruptions in our information systems, cyberattacks or other breaches.

Additionally, failures in our controls, including internal controls over financial reporting, could result from human error, fraud, design flaws, breakdowns in information and computer systems, or natural or man-made disasters. Moreover, lapses in, and inadequacies with respect to, our operating processes, including manual processes and data management, could affect our overall operations, including collateral maintenance. We also rely on our employees and third parties in our day-to-day and ongoing operations, who may, as a result of human error, misconduct, malfeasance or a failure or breach of systems or infrastructure, expose us to risk. A significant control failure, or a lapse in certain operating processes, could materially impact our financial condition and results of operations. We may not be able to foresee, prevent, mitigate, reverse, or repair some or all of the negative effects of such failures. If we are unable to correct material weaknesses or deficiencies in internal controls in a timely manner, our ability to record, process, summarize and report financial information accurately and within the time periods specified in the rules and forms of the SEC could be adversely affected. A failure in our internal control over financial reporting or a lapse in our operating processes could cause our members to lose confidence in our reported financial information, in our processes, or in us as a whole, subject us to government enforcement actions, and generally, materially, and adversely impact our business and financial condition.

A significant portion of our business support services are hosted by third party vendors and if our vendors fail to adequately perform the contracted services in the manner necessary to meet our needs or if they become subject to any information or security breach or technological failures, our business, financial condition, and results of operations may be harmed. Additionally any failure in the operating systems related to the Office of Finance could disrupt our ability to conduct and manage our business.

We have engaged various vendors to provide us with data center and hosted services that may include hardware, software support, connectivity, and other technology services, including vendors for which there are few substitutes or would be difficult to replace in a timely manner. Any failure, interruption, or breach in security of these systems or services, including relating to the downstream service providers of our vendors, could result in disruptions in our ability to conduct business. There is no assurance that if or when such incidents do occur, that they will be adequately addressed by us or the third party vendors on whom we rely. Further, any such event may not be disclosed to us in a timely manner. The occurrence of any failures or interruptions could have a material adverse effect on our business, financial condition, and results of operations.

Additionally, we rely on the Office of Finance to facilitate the issuance and servicing of our consolidated obligations. A failure, interruption, or breach in the security of the Office of Finance's or their critical vendors' or third parties' (including the Federal Reserve Banks) operating systems could disrupt our access to funds, and may harm our business. Moreover, any operational failure of the Office of Finance or their critical vendors or third parties could also expose us to the risk of loss of data or

confidential information, or other harm, including reputational damage.

The performance of our MPF Loan portfolio depends in part upon third party servicers and defaults by one or more of these third parties on its obligations to us could adversely affect our results of operations or financial condition.

Mortgage Servicing. We rely on PFIs and third party servicers to perform mortgage loan servicing activities for our MPF Loans held in portfolio. With respect to the MPF Xtra and MPF Government MBS products, we are contractually obligated to Fannie Mae and Ginnie Mae, respectively, with respect to servicing of the related MPF Loans under certain servicing options.

Servicing activities include collecting payments from borrowers, paying taxes and insurance on the properties secured by the MPF Loans, advancing principal and interest under scheduled remittance options, maintaining applicable government agency insurance or guaranty, reporting loan delinquencies, loss mitigation, and disposition of real estate acquired through foreclosure or deed-in-lieu of foreclosure. If current housing market trends negatively decline, the number of delinquent mortgage loans serviced by PFIs and third party servicers could increase. Managing a substantially higher volume of non-performing loans could create operational difficulties for our servicers. In the event that any of these entities fails to perform its servicing duties, we could experience a temporary interruption in collecting principal and interest or even credit losses on MPF Loans or incur additional costs associated with obtaining a replacement servicer if the servicer fails to indemnify us for its breaches. Similarly, if any of our servicers become ineligible to continue to perform servicing activities under MPF Program guidelines, we could incur additional costs to obtain a replacement servicer. If a PFI servicer fails to perform its servicing responsibilities, we can potentially recover losses we incur from the collateral pledged to us under our Advances, Collateral Pledge and Security Agreement with the PFI; however, the amount of collateral pledged thereunder is not sized to cover a specific amount related to servicing obligations. If a third party servicer is not one of our members, we would not have this additional remedy.

We offer servicing released alternatives for most of our MPF Loan products but currently we only have one servicing aggregator for particular products. If a servicing aggregator that is established as an approved servicer for the MPF Program exited the business or was not offering attractive servicing released premiums, or if we should decide to terminate our relationship with the servicer, our MPF Loan volume could be negatively impacted until we could engage replacement servicers.

Master Servicing. We act as master servicer for the MPF Program. In this regard, we have engaged a vendor for certain master servicing activities, Wells Fargo Bank N.A., which monitors the servicers' compliance with the MPF Program requirements and issues periodic reports to us. While we manage MPF Program cash flows, if the vendor should refuse or be unable to provide the necessary service, or if we should decide to terminate our relationship with the vendor, we may be required to engage another vendor which could result in delays in reconciling MPF Loan payments to be made to us or increased expenses to retain a new master servicing vendor.

General Risk Factors

A cyberattack, information or security breach, or a technology failure of ours or a third party could adversely affect our ability to conduct our business, result in the disclosure or misuse of confidential or proprietary information, and adversely impact our results of operations and financial condition, as well as cause legal or reputational harm.

Our operations are highly dependent on the security, controls and efficacy of our infrastructure, computer, communications, internet and data management systems, as well as those of our counterparties and other third parties, including their downstream service providers. Our business relies on effective access management and the secure collection, processing, transmission, storage and retrieval of confidential, proprietary, personally identifiable, and other information in our computer and data management systems and networks, and in the computer and data management systems and networks of third parties. The continued occurrence of high-profile data breaches and other cyberattacks at financial and other institutions indicates the continuing existence of an external environment with diverse and sophisticated methods of attack and potential data exfiltration. These breaches or other attacks are pervasive and evolving and include computer viruses, malicious or destructive code (such as ransomware), phishing attacks, denial of service or information or other security breach tactics that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction or theft of confidential, proprietary, personally identifiable, and other information, damages to systems, or otherwise material disruption to our or our members' or other third parties' network access or business operations. Additionally, threats of cyber terrorism, external extremist parties, including state-sponsored actors, result in heightened risk exposure. The techniques used in cyberattacks change frequently and have grown increasingly sophisticated, and these attacks or ensuing security breaches could persist for an extended period of time before being detected. It could take considerable additional time for us to determine the scope, extent, amount, and type of information compromised, at which time the impact on the Bank and measures to recover and restore to a business as usual state may be difficult to assess.

The materiality of these risks depends on the nature, extent, and potential magnitude of a potential incident or attack. In this

environment, we continue to engage in ongoing monitoring of the effectiveness of our security controls, engage in proper testing of our security controls and responses, and implement changes as needed to mitigate security vulnerabilities and bolster operational resilience. Regardless of the measures we have taken, our ability to conduct business may be adversely affected by any significant improper access to, or disclosure of personally identifiable information, or other confidential information, or cyberattacks or other significant disruptions. A failure or breach of our operational or security systems or infrastructure resulting in disruption to our critical business operations could expose us to regulatory, market, privacy and liquidity risk, and adversely impact our results of operations and financial condition, as well as cause legal or reputational harm. Moreover, expanded government scrutiny of practices relating to the safekeeping of personally identifiable information or other confidential information may result in the adoption of stricter laws or regulations that could impede our business or increase compliance costs Our cyber risk and other insurance might not be sufficient to cover us against claims related to security incidents, breaches, cyberattacks and other related events.

The loss of key personnel or difficulties recruiting and retaining qualified personnel could adversely impact our business and financial results.

Much of our future success depends on the continued availability and service of senior management personnel. The loss of any of our executive officers or other key senior management personnel could harm our business. Additionally, we must continue to recruit, retain and motivate a qualified and diverse pool of employees, both to maintain our current business, including succession planning, and to execute our strategic initiatives. If we are unable to recruit, retain and motivate such employees to maintain our current business and support our projected growth, our business and financial performance may be adversely affected.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

As of February 28, 2021, we occupy 95,105 square feet of leased office space at 200 East Randolph Drive, Chicago, Illinois 60601 (the "Aon Location"). We also maintain 5,518 square feet of leased space for an off-site back-up facility 15 miles northwest of our main facility, which is on a separate electrical distribution grid.

The Bank expects to relocate from the Aon Location to a leased new office space of 129,065 square feet at 433 West Van Buren Street, Chicago, Illinois 60607 in 2021.

Item 3. Legal Proceedings.

On October 15, 2010, the Bank instituted litigation relating to 64 PLMBS bonds purchased by the Bank in an aggregate original principal amount of $4.29 billion. Of the three cases that were filed by the Bank, only the action filed in the Circuit Court of Cook County, Illinois remains active. As of February 28, 2021, the remaining litigation covers three PLMBS bonds, which we have since sold as part of our PLMBS sale discussed in **Note 2 –Summary of Significant Accounting Policies** to the financial statements. As of February 28, 2021, Morgan Stanley & Co., Incorporated, and certain of its affiliates, remain as the sole defendants in the Illinois action.

In this action, the Bank asserts claims for untrue or misleading statements in the sale of securities, signing or circulating securities documents that contained material misrepresentations, and negligent misrepresentation. The Bank seeks the remedies of rescission, recovery of damages, and recovery of reasonable attorneys' fees and costs of suit.

The Bank may also be subject to various other legal proceedings arising in the normal course of business. After consultation with legal counsel, management is not aware of any other proceedings that might have a material effect on the Bank's financial condition or results of operations.

Item 4. Mine Safety Disclosures.

Not applicable.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

PART II

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

Our members, and under limited circumstances former members, own our capital stock. Former members may continue to hold our capital stock when they have withdrawn from membership or have merged with out-of-district institutions. Our members elect our directors. We conduct our business almost exclusively with our members. Our stock can only be acquired and redeemed or repurchased at a par value of $100 per share. Our stock is not publicly traded and no market mechanism exists for the exchange of stock outside our cooperative structure.

We issue only one class of capital stock, Class B stock, consisting of two sub-classes of stock, Class B1 stock and Class B2 stock which, under our Capital Plan has a par value of $100 per share. As of January 31, 2021, we had 23,000,345 shares of capital stock outstanding, including mandatorily redeemable capital stock recorded as a liability, and we had 699 stockholders of record. For details on our Capital Plan, on member withdrawals and other terminations, and related amounts classified as mandatorily redeemable capital stock, see **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements and **Capital Resources** on page 62.

Information regarding our cash dividends declared in each quarter in 2019 and 2020, and information regarding regulatory requirements and restrictions on dividends, is set forth in the **Retained Earnings & Dividends Policy** section on page 66.

The following table presents, by type of institution, the outstanding capital stock holdings of our members and former members. Our capital stock may be redeemed upon five years' notice from the member to the Bank, subject to applicable conditions. For a description of our policies and related restrictions regarding capital stock redemptions and repurchases, see **Capital Resources** on page 62.

As of	**December 31, 2020**	December 31, 2019
Commercial banks	**$ 928**	$ 1,057
Savings institutions	**89**	173
Credit unions	**449**	285
Insurance companies	**543**	197
Community Development Financial Institutions	**1**	1
Total GAAP capital stock	**2,010**	1,713
Stock reclassified as mandatorily redeemable capital stock (liability)	**279**	324
Total regulatory capital stock outstanding	**$ 2,289**	$ 2,037

FHLB Chicago | Federal Home Loan Bank of Chicago

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 6. Selected Financial Data.

As of or for the years ended December 31,	2020	2019	2018	2017	2016
Selected statements of condition data					
Investments [a]	**$ 39,649**	$ 38,882	$ 32,684	$ 30,683	$ 28,060
Advances	**46,695**	50,508	52,628	48,085	45,067
MPF Loans held in portfolio, net	**10,041**	10,000	7,103	5,193	4,967
Total assets	**100,356**	99,827	92,857	84,355	78,692
Consolidated obligation discount notes	**48,643**	41,675	43,166	41,191	35,949
Consolidated obligation bonds	**42,670**	50,474	42,250	37,121	36,903
Capital stock	**2,010**	1,713	1,698	1,443	1,711
Retained earnings	**4,072**	3,770	3,536	3,297	3,020
Total capital	**$ 6,289**	$ 5,454	$ 5,289	$ 4,852	$ 4,695
Other selected data at period end					
Member standby letters of credit outstanding	**$ 16,395**	$ 23,851	$ 24,306	$ 19,572	$ 10,828
MPF Loans par value outstanding - FHLB System [b]	**70,326**	68,759	58,820	51,563	46,293
MPF Loans par value outstanding - FHLB Chicago PFIs [b]	**18,934**	17,364	14,522	12,484	11,624
Number of members	**686**	689	705	720	728
Total employees (full and part time)	**474**	488	468	460	440
Selected statements of income data					
Net interest income after provision for (reversal of) credit losses	**$ 588**	$ 458	$ 513	$ 483	$ 455
Noninterest income	**104**	100	16	44	76 [c]
Noninterest expense	**275**	223	191	174	167
Net income	**$ 374**	$ 300	$ 303	$ 317	$ 327
Other selected data during the periods ended					
MPF Loans par value amounts funded - FHLB System [b]	**$ 27,387**	$ 21,005	$ 13,617	$ 11,915	$ 10,872
Number of PFIs funding MPF products - FHLB System [b]	**877**	898	902	909	873
MPF Loans par value amounts funded - FHLB Chicago PFIs [b]	**$ 8,852**	$ 5,788	$ 3,614	$ 2,521	$ 3,145
Number of PFIs funding MPF products - FHLB Chicago [b]	**207**	210	208	204	191
Selected ratios (rates annualized)					
Total regulatory capital to assets ratio	**6.34 %**	5.82 %	5.97 %	5.99 %	6.40 %
Market value of equity to book value of equity	**105 %**	105 %	105 %	107 %	108 %
Primary mission asset ratio [d]	**72.1 %**	72.3 %	71.1 %	67.3 %	66.2 %
Dividend rate class B1 activity stock-period paid	**5.00 %**	5.00 %	4.06 %	3.19 %	2.75 %
Dividend rate class B2 membership stock-period paid	**2.25 %**	2.19 %	1.65 %	1.10 %	0.60 %
Return on average assets	**0.36 %**	0.30 %	0.33 %	0.38 %	0.42 %
Return on average equity	**6.10 %**	5.29 %	5.74 %	6.84 %	7.18 %
Average equity to average assets	**5.90 %**	5.67 %	5.74 %	5.58 %	5.87 %
Net yield on average interest earning assets	**0.59 %**	0.47 %	0.56 %	0.59 %	0.59 %
Return on average Regulatory Capital spread to 3-month LIBOR index	**5.42 %**	2.92 %	3.25 %	5.25 %	5.96 %
Cash dividends	**$ 84**	$ 82	$ 64	$ 40	$ 37
Dividend payout ratio	**22.46 %**	27.33 %	21.12 %	12.62 %	11.31 %

[a] Investments includes investment debt securities, interest bearing deposits, Federal Funds sold, and securities purchased under agreements to resell.

[b] Includes all MPF products, whether on or off our balance sheet. See **Mortgage Partnership Finance Program** beginning on page 8 for details on our various MPF products.

[c] Includes $38 million in litigation settlement awards.

[d] The FHFA issued an advisory bulletin that provides guidance relating to a primary mission asset ratio by which the FHFA will assess each FHLB's core mission achievement. See **Mission Asset Ratio** on page 5 for more information.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

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

Forward-Looking Information

Statements contained in this report, including statements describing the plans, objectives, projections, estimates, strategies, or future predictions of management, statements of belief, any projections or guidance on dividends or other financial items, or any statements of assumptions underlying the foregoing, may be “forward-looking statements.” These statements may use forward-looking terminology, such as “anticipates,” “believes,” “expects,” “could,” "plans," “estimates,” “may,” “should,” “will,” their negatives, or other variations of these terms. We caution that, by their nature, forward-looking statements involve risks and uncertainties related to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. These risks and uncertainties could cause actual results to differ materially from those expressed or implied in these forward-looking statements and could affect the extent to which a particular objective, projection, estimate, or prediction is realized. As a result, undue reliance should not be placed on such statements.

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

- the impact of the COVID-19 pandemic on the global and national economies and on our and our members’ businesses;
- the loss or changes in business activities with significant members; changes in the demand by our members for advances, including as a result of the Federal Reserve’s emergency actions to increase liquidity along with market conditions resulting from the COVID-19 pandemic, the impact of pricing increases, and the availability of other sources of funding for our members, such as deposits;
- regulatory limits on our investments;
- the impact of new business strategies, including our ability to develop and implement business strategies focused on maintaining net interest income; our ability to successfully maintain our balance sheet and cost infrastructure at an appropriate composition and size scaled to member demand; our ability to execute our business model, implement business process improvements and scale our size to our members' borrowing needs; the extent to which our members use our advances as part of their core financing rather than just as a back-up source of liquidity; and our ability to implement product enhancements and new products and generate enough volume in new products to cover our costs related to developing such products;
- the extent to which changes in our current capital stock requirements and/or our ability to continue to offer the Reduced Capitalization Advance Program for certain future advance borrowings, our ability to continue to pay enhanced dividends on our activity stock or our ability to maintain current levels of dividends, and any amendments to our capital plan, impact Bank product usage and activity with members;
- our ability to meet required conditions to repurchase and redeem capital stock from our members (including maintaining compliance with our minimum regulatory capital requirements and determining that our financial condition is sound enough to support such repurchases), the amount and timing of such repurchases or redemptions, any changes in our repurchase processes, and our ability to maintain compliance with regulatory and statutory requirements relating to our dividend payments;
- general economic and market conditions, including the timing and volume of market activity, inflation/deflation, unemployment rates, housing prices, the condition of the mortgage and housing markets, increased delinquencies and/or loss rates on mortgages, prolonged or delayed foreclosure processes, and the effects on, among other things, mortgage-backed securities; volatility resulting from the effects of, and changes in, various monetary or fiscal policies and regulations, such as those determined by the Federal Reserve Board and Federal Deposit Insurance Corporation; impacts from various measures to stimulate the economy and help borrowers refinance home mortgages; disruptions in the credit and debt markets and the effect on future funding costs, sources, and availability; the impact of the occurrence of a major natural or other disaster, a pandemic such as COVID-19, or other disruptive event; the impact of climate change;
- volatility of market prices, rates, and indices, or other factors, such as natural disasters, that could affect the value of our investments or collateral; changes in the value or liquidity of collateral securing advances to our members;
- changes in the value of and risks associated with our investments in mortgage loans, mortgage-backed securities, and the related credit enhancement protections;

- changes in our ability or intent to hold mortgage-backed securities to maturity;
- changes in mortgage interest rates and prepayment speeds on mortgage assets;
- membership changes, including the loss of members through mergers and consolidations or as a consequence of regulatory requirements; changes in the financial health of our members, including the resolution of some members; risks related to expanding our membership to include more institutions with regulators and resolution processes with which we have less experience;
- increased reliance on short-term funding and changes in investor demand and capacity for consolidated obligations and/or the terms of interest rate derivatives and similar agreements, including changes in the relative attractiveness of consolidated obligations as compared to other investment opportunities; changes in our cost of funds due to concerns over U.S. fiscal policy, and any related rating agency actions impacting FHLB consolidated obligations;
- uncertainties relating to the scheduled phase-out of the London Interbank Offered Rate (LIBOR);
- political events, including legislative, regulatory, judicial, or other developments that affect us, our members, our counterparties and/or investors in consolidated obligations, including, among other things, changes in the proposals and legislation related to housing finance and GSE reform; changes in the Presidential Administration and the Congress; changes in our regulator or changes affecting our regulator and changes in the FHLB Act or applicable regulations as a result of the Housing and Economic Recovery Act of 2008 (Housing Act) or as may otherwise be issued by our regulator; the potential designation of us as a nonbank financial company for supervision by the Federal Reserve;
- regulatory changes to FHLB membership requirements, capital requirements, MPF program requirements, and liquidity requirements by the FHFA, and increased guidance from the FHFA impacting our balance sheet management, product structures, and collateral practices;
- the ability of each of the other FHLBs to repay the principal and interest on consolidated obligations for which it is the primary obligor and with respect to which we have joint and several liability;
- the pace of technological change and our ability to develop and support technology and information systems, including our ability to protect the security of our information systems and manage any failures, interruptions or breaches in our information systems or technology services provided to us through third party vendors;
- our ability to attract and retain skilled employees;
- the impact of new accounting standards and the application of accounting rules, including the impact of regulatory guidance on our application of such standards and rules;
- the volatility of reported results due to changes in the fair value of certain assets and liabilities;
- our ability to identify, manage, mitigate, and/or remedy internal control weaknesses and other operational risks; and
- the reliability of our projections, assumptions, and models on our future financial performance and condition, including dividend projections.

For a more detailed discussion of the risk factors applicable to us, see **Risk Factors** starting on page 23.

These forward-looking statements are representative only as of the date they are made, and we undertake no obligation to update any forward-looking statement as a result of new information, future events, changed circumstances, or any other reason.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Executive Summary

2020 Financial Highlights

- We recorded net income of $374 million in 2020 compared to $300 million in 2019.
- Net interest income for 2020 was $595 million, compared to $458 million in 2019, primarily due to increased advance prepayment fee income, partially offset by the effects of falling interest rates (which generally declined more quickly on our debt than our longer duration assets).
- Noninterest income increased by $4 million to $104 million in 2020 compared to $100 million in 2019, in part due to a gain of $109 million from the sale of our private label mortgage backed securities (PLMBS) portfolio in the fourth quarter of 2020 and a year over year increase of $16 million of MPF fee income driven by the year's significant MPF Loan prepayment activity. These increases to noninterest income were partially offset by a net loss of $88 million in derivatives, economic hedging, and instruments held under fair value option in 2020, which is a change of $114 million as compared to the net gain of $26 million in 2019.
- Noninterest expense increased $52 million to $275 million for 2020, primarily driven by $28 million in COVID-19 relief offered to our members in 2020, and an increase in compensation and benefits expense.
- Total assets were $100.4 billion at year-end 2020 compared to $99.8 billion at year-end 2019, as the decline in advances was offset by an increase in our liquidity portfolio and investment securities.
- Total investment securities increased 6% in 2020 to $24.5 billion, as we invested in primarily GSE residential MBS during the first half of 2020.
- Retained earnings were $4.1 billion at year-end 2020, up from $3.8 billion at year-end 2019, and we remained in compliance with all of our regulatory capital requirements as of year-end 2020.

Summary and Outlook

This past year was a difficult year as communities across Illinois and Wisconsin experienced a rise in COVID-19 cases, causing strains in businesses, communities, and local economies. These challenges will likely persist until vaccines become widely available. This makes the support our members' communities receive from each of our members even more important, which means the Bank's role in serving its members is essential.

The Bank's commitment to provide our members reliable, high value products, services, and solutions in support of their businesses has been uninterrupted by the COVID-19 pandemic, and we remain committed to supporting our members and their communities through these times. In 2020, the Bank implemented a number of programs and accommodations to support our members and their communities. Discussed below are many of the year's triumphs in which we and our members came together to adapt to new ways of supporting our members' communities in extraordinary ways.

COVID-19 Relief

In April 2020, the Bank announced its COVID-19 Relief Program consisting of zero-rate advances (Relief Advances) to strengthen our members' balance sheets and grants (Relief Grants) to provide needed support to our members' communities. This unique program, available from April 27, 2020 to May 22, 2020, achieved 98% member participation with $1.9 billion in Relief Advances drawn and $13.1 million in Relief Grants disbursed to over 5,000 small business and nonprofit beneficiaries. As the pandemic continued to impact communities across our district, we offered additional support through the Targeted Impact Fund. Through our members' participation between August 17, 2020 and November 13, 2020, $9.8 million in grant funding was awarded to more than 1,300 organizations supporting Black, Latino, Native American, elderly, rural, and low- and moderate-income populations hardest-hit by the pandemic and advancing equity in these underserved communities.

Member Product and Program Use

In 2020, 89% of our members and non-member housing associates used at least one of our core product offerings—advances, letters of credit, or MPF Program products—or participated in our competitive AHP or DPP Programs. Below is a recap of member product and program use in 2020.

- Advances outstanding**:** At year-end 2020, 505 members had advances of $46.7 billion, down 8% from year-end 2019. Many of our depository members experienced an inflow of deposits on their balance sheets along with reduced loan demand, while also having access to other liquidity sources as a result of certain government actions related to the COVID-19 pandemic. Although these factors continued to reduce our depository members' need for advances, increased advance borrowing by insurance company members has partially offset the decrease by depository

members.

- Letters of credit outstanding: At year-end 2020, 204 members had letters of credit outstanding of $16.4 billion, down 31% from year-end 2019. This decrease was primarily the result of one of our captive insurance company members reducing its letters of credit usage in anticipation of membership termination on February 19, 2021.
- MPF loans outstanding: During 2020, 152 PFIs funded into our MPF on balance sheet products. At year-end 2020, MPF loans outstanding on our balance sheet were $10.0 billion, mostly unchanged from year-end 2019 as new acquisition volume kept pace with paydowns and prepayment activity. During 2020, new acquisition volume was driven primarily by refinancing activity as mortgage rates declined overall.
- Competitive AHP: In 2020, $24.8 million was awarded to 23 members through our competitive AHP to help finance 44 affordable housing projects consisting of more than 2,000 housing units located in Illinois and Wisconsin.
- DPP**:** In 2020, 178 members disbursed $17 million in DPP grants on behalf of nearly 3,000 homebuyers in our members' communities.

Technology Enhancements for a Seamless Borrowing Experience and Expanded Capacity

The Bank is dedicated to providing a seamless borrowing experience for our members. In 2020, we implemented enhancements to our eBanking platform to make borrowing easier for our members. These enhancements included:

- The ability to execute certain letters of credit, roll over advances, and pre-pay advances online.
- Improved navigation for funding transactions, including a new dashboard for funding details, real time advance status, and a streamlined advance wizard.
- Up to seven years of historical data on-demand with the ability to extract past transactional data.

Throughout 2020, we remained dedicated to finding ways for our members to leverage innovative technology and expand their collateral opportunities with us. We helped our members remain competitive by providing additional collateral lendable value through new loan types. These collateral expansion efforts support our members' activity with us and serve as an additional source of contingent liquidity. Below is a recap of capacity expansions we made in 2020:

- Eligibility of SBA 7(a) Paycheck Protection Program (PPP) Loans: On April 23, 2020, as a part of our COVID-19 relief efforts, we began accepting PPP loans as eligible collateral from member institutions that are approved SBA lenders. See also **Recent Legislative and Regulatory Developments** on page 18 for additional details.
- Accepting eNotes as Collateral: On August 3, 2020, we began accepting electronic promissory notes (eNotes) as pledged collateral. Currently, we accept 1-4 Family mortgage loans and closed end term 2nd mortgage loans.
- Accepting Construction Loans as Collateral: On October 1, 2020, we began accepting construction, land development, and other land loans as eligible collateral from our depository members.

Virtual Member Engagements

This past year, the COVID-19 pandemic changed the way we connect with each other. Virtual events replaced in-person gatherings, but we were able to successfully convert all in-person conferences and educational workshops to live, virtual events and were delighted to see 85% of our member institutions attend at least one virtual event. The Bank remains committed to providing our members the value they obtain from our member engagements—whether they are conducted virtually or in-person once it is safe to do so again.

Investing in Members' Communities

Providing our members support for their local communities is central to our mission, and the Bank achieves this through products, programs, and awards that drive economic development, expand lending capital and capacity, and recognize community leaders. Here is a recap of those efforts in 2020.

- Community Small Business Advance: The Community Small Business Advance enables our members to support their local economy and community revitalization efforts in income-eligible communities. In 2020, nearly $900,000 in interest-rate subsidy was reserved to support an anticipated $16.4 million in lending to 24 small businesses.
- Community First® Capacity-Building Grant Program: In 2020, we increased the allocation for the Community First Capacity-Building Grant Program to accommodate heightened demand due to the COVID-19 pandemic. In response to the extraordinary volume of highly competitive applications received, we awarded $948,562 to 21 nonprofit lenders in partnership with 14 members. These grants provide flexible funding to nonprofit lenders in support of economic development and affordable housing in Illinois and Wisconsin.
- Community First Awards: In 2020, we awarded $40,000 in Community First Awards to recognize outstanding

achievements of our members and their local partners in the communities they serve. Award recipients included an innovative food and beverage manufacturing incubator, leaders in community economic development and sustainable homeownership, and a partnership supporting immigrants, refugees, and asylum seekers.

Fourth Quarter 2020 Dividends and Dividend Guidance

Based on our preliminary financial results for the fourth quarter of 2020, the Board of Directors declared a dividend of 5.00% (annualized) for Class B1 activity stock, unchanged from eight previous quarters. The Bank pays a higher dividend per share on activity stock to recognize members that support the entire cooperative through the use of our products. The higher dividend received on Class B1 activity stock has the effect of lowering members' borrowing costs, and this benefit has increased on a relative basis as the Federal Reserve cut short-term interest rates twice in 2020. We expect to maintain a 5.00% (annualized) dividend for Class B1 activity stock for the first and second quarters of 2021, based on current projections and assumptions regarding our financial condition. We provide dividend guidance to assist members in planning their advance, letters of credit, and MPF products activity with us.

Additionally, based on our preliminary financial results for the fourth quarter of 2020, the Board of Directors declared a dividend of 2.00% (annualized) for Class B2 membership stock. Given the current interest rate environment, we reduced the B2 dividend to be more aligned with current market rates.

Any future dividend payments remain subject to determination and declaration by our Board of Directors and may be impacted by further changes in financial or economic conditions, regulatory and statutory limitations, and any other relevant factors. For additional discussion of risks that may impact the Bank's dividend payments, see the **Risk Factors** section starting on page 23.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Critical Accounting Policies and Estimates

See **Note 2 - Summary of Significant Accounting Policies** to the financial statements for further details on our accounting policies.

The preparation of financial statements in accordance with GAAP requires management to make a number of judgments, estimates, and assumptions that affect the reported amounts of assets, liabilities, income and expense. To understand the Bank's financial position and results of operations, it is important to understand the Bank's most significant accounting policies and the extent to which management uses judgment, estimates and assumptions in applying those policies. The Bank's critical accounting policies and estimates include the following:

- Derivatives and hedging activities; and
- Fair value estimates.

Derivatives and Hedging Activities

We transact most of our derivatives with large banks and major broker-dealers. Some of these banks and broker-dealers or their affiliates buy, sell, and distribute consolidated obligations. We are not a derivatives dealer and do not trade derivatives for speculative purposes. We enter into derivative transactions through either of the following:

- A bilateral agreement with an individual counterparty for over-the-counter derivative transactions.
- Clearinghouses classified as DCOs through FCMs, which are clearing members of the DCOs, for cleared derivative transactions.

Managing Interest Rate Risk

We carry all derivatives at fair value in our statements of condition. We use fair value hedges to manage our exposure to changes in the fair value of (1) a recognized asset or liability or (2) an unrecognized firm commitment, attributable to changes in a benchmark interest rate. Our cash flow hedge strategy is to hedge the variability in the total net proceeds received from rolling forecasted zero-coupon discount note issuance, attributable to changes in the benchmark interest rate, by entering into pay-fixed interest rate swaps.

We may elect the fair value option for financial instruments, such as advances, MPF Loans held for sale, and consolidated obligation discount notes and bonds, in cases where hedge accounting treatment may not be achieved due to the inability to meet the hedge effectiveness testing criteria, or in certain cases where we wish to mitigate the risk associated with selecting the fair value option for other instruments. We may also use economic hedges when hedge accounting is not permitted or hedge effectiveness is not achievable.

Derivative Hedge Accounting - Refer to **Note 2 - Summary of Significant Accounting Policies** and **Note 9 - Derivatives and Hedging Activities** for further details. We apply hedge accounting to qualifying hedge relationships. A qualifying hedge relationship exists when a derivative hedging instrument is expected to effectively offset changes in fair values, cash flows, or underlying risk of the hedged item during the term of the hedge relationship. We prepare formal contemporaneous documentation at inception of the hedge relationship to support that the hedge relationship qualifies for hedge accounting treatment and assess hedge effectiveness on an ongoing basis. On a quantitative basis hedge effectiveness is considered to exist when correlation between the hedged item and hedging instrument is between 80% and 125%. On a qualitative basis hedge effectiveness is considered to exist when the correlation is between 90% and 110%. The hedge documentation formally documents the hedge relationship and its risk management objective and strategy for undertaking the hedge, including identification of the hedging instrument, the hedged item, the nature of the risk being hedged, and how the hedging instrument’s effectiveness in offsetting the exposure to changes in the hedged item’s fair value attributable to the hedged risk will be assessed.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

As of December 31, 2020, we held $50.8 billion notional of interest-rate derivatives with a total, net asset (liability) fair market value of $(2.2) billion, excluding posted collateral. These derivatives hedge mostly our fixed rate interest bearing assets and liabilities. The following table shows the estimated changes in the fair market value of our interest-rate derivatives under parallel interest-rate shifts allowing interest rates going negative under current low rate environment (for example the same change to interest rates on short-, intermediate-, and long-term fixed income maturities):

	As of December 31, 2020							
Change from base case in bps	-200	-100	-50	-25	+25	+50	+100	+200
Net change in fair market value	$ (4,304)	$ (2,009)	$ (969)	$ (475)	$ 457	$ 897	$ 1,728	$ 3,203

The above table includes total derivatives entered into by the Bank, which includes interest-rate derivatives related to fair value hedges, cash flow hedges, and economic hedges.

In addition to performing the above sensitivity analysis, we also compare our fair value estimates of our outstanding derivatives to the estimates of our counterparties. At December 31, 2020 our total, net estimated fair market value of derivatives was $2 million (0.1%) over the counterparties' estimated values.

Fair Value Estimates

We believe our estimated fair value amounts are reasonable; however, as outlined below, there are inherent limitations in any valuation technique.

- Our estimated fair value amounts are highly subjective in nature. We select assumptions and inputs from a market participant's perspective to use with any of our valuation techniques. Such assumptions and inputs include, but are not limited to, the amount and timing of future cash flows, prepayment speed, 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. Significant judgment is required when selecting such assumptions and inputs. Using different assumptions and inputs could have a material effect on our estimated fair value amounts. Further, the estimated fair value amounts presented in our statements of condition and disclosed in our notes to financial statements are not necessarily indicative of the amounts that would be realized in current market transactions.

- Our estimated fair value amounts are made as of the statement of condition date; and accordingly, such estimated fair value amounts are susceptible to material changes thereafter.

Fair value represents the exit price that we would receive to sell an asset or pay to transfer a liability in an orderly transaction with a market participant at the measurement date.

Valuation Techniques and Significant Inputs

We utilize the fair value hierarchy when selecting valuation techniques and significant inputs to measure the fair value of our assets and liabilities. Our valuation techniques may utilize market, cost, and/or income models to estimate fair values. Under the fair value hierarchy, valuation techniques and significant inputs are prioritized from the most objective, such as quoted market prices in external active markets, to the least objective, such as valuation approaches that utilize unobservable inputs. The fair value hierarchy requires us to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Outlined below is an overview of Level 1, Level 2, and Level 3 of the fair value hierarchy. Refer to **Note 15 - Fair Value** for further details on our valuation techniques and significant inputs.

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that we can access at the measurement date.

- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (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 or in which little information is released publicly; (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 (e.g., implied

spreads).

- Level 3 inputs are unobservable inputs used to measure fair value of an asset or liability to the extent that relevant observable inputs are not available; for example, situations in which there is little, if any, market activity for the asset or liability at the measurement date.

Valuation of Derivatives and Hedged Items. For purposes of estimating the fair value of derivatives and items for which we are hedging changes in the benchmark fair value, we employ a valuation model that uses market data from the Eurodollar futures, cash LIBOR, U.S. Treasury obligations, Effective federal funds rates (EFFR), overnight indexed swap rates, Secured Overnight Financing Rate (SOFR), SOFR Futures and the U.S. dollar interest-rate-swap markets to construct discount and forward-yield curves using standard financial market techniques.

For the valuation of derivatives, we use OIS based on the federal funds effective rate as the discount rate for our interest-rate derivatives which are not cleared through a DCO, while SOFR discounting curve is used for valuation of derivative cleared through a DCO. For derivatives, we compare the fair values obtained from our valuation model to clearinghouse valuations (in the case of cleared derivatives) and non-binding dealer estimates (in the case of bilateral derivatives), and may also compare derivative fair values to those of similar instruments, to ensure such fair values are reasonable.

For the valuation of hedged assets or liabilities in fair-value hedging relationships where the hedged risk changes in the benchmark fair value, we use LIBOR, OIS or SOFR as the discount rate, depending on which interest-rate index was designated as the benchmark rate at inception of the hedge relationship. These valuations are calculated using the same valuation model that calculates the fair values of the associated hedging derivatives. This valuation model is subject to a model validation approximately every two years by either an external party or an internal validation group. We periodically review and refine, as appropriate, the assumptions and valuation methodologies to reflect market indications as closely as possible.

Depending upon the spreads between LIBOR, OIS and SOFR rates, the use of the curve to value our interest-rate exchange agreements and the curve (plus or minus a constant spread) to derive the benchmark fair values of our hedged items could be different and result in increased fair-value hedge ineffectiveness. In addition, while not likely, this valuation methodology has the potential to lead to the loss of hedge accounting for some of these hedging relationships. Either of these outcomes could result in increased earnings volatility, which could potentially be material. However, through December 31, 2020, no hedge relationships failed our hedge effectiveness criteria as a result of using LIBOR, OIS or SOFR curves as the discount rate.

Valuation of Investment Securities. To value our holdings of investment securities, we obtain prices from three designated third-party pricing vendors when available. The pricing vendors use various proprietary models to price these securities. 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 securities do not trade on a daily basis, the pricing vendors use available information as applicable such as benchmark curves, benchmarking of like securities, sector groupings and matrix pricing to determine the prices for individual securities. Each pricing vendor has an established challenge process in place for all security valuations, which facilitates resolution of potentially erroneous prices identified by the Bank. Annually, we conducted reviews of the three pricing vendors to reconfirm our understanding of the vendors' pricing processes, methodologies and control procedures and were satisfied that those processes, methodologies and control procedures were adequate and appropriate.

As of December 31, 2020, multiple vendor prices were received for substantially all of our investment securities and the final prices for substantially all of those securities were computed by averaging those prices. Based on our review of the pricing methods and controls employed by the third-party pricing vendors and the relative lack of dispersion among the vendor prices (or, in those instances in which there were outliers or significant yield variances, our additional analyses), we believe the final prices used are reasonably likely to be exit prices and further that the fair-value measurements are classified appropriately in the fair-value hierarchy.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Results of Operations

Net Interest Income

Net interest income is the difference between the amount we recognize into interest income on our interest earning assets and the amount we recognize into interest expense on our interest bearing liabilities. These amounts were determined in accordance with GAAP and were based on the underlying contractual interest rate terms of our interest earning assets and interest bearing liabilities as well as the following items:

- Amortization of premiums;
- Accretion of discounts and credit OTTI reversals;
- Hedge ineffectiveness, which represents the difference between changes in fair value of the derivative hedging instrument and the related change in fair value of the hedged item is recognized into either interest income or interest expense, whichever is appropriate. For cash flow hedges, recognition occurs only when amounts are reclassified out of accumulated other comprehensive income. Such recognition occurs when earnings are affected by the hedged item;
- Net interest paid or received on interest rate swaps that are accounted for as fair value or cash flow hedges;
- Amortization of fair value and cash flow closed hedge adjustments;
- Advance and investment prepayment fees; and
- MPF credit enhancement fees.

The following table presents the increase or decrease in interest income and expense due to volume or rate variances. The calculation of these components includes the following considerations:

- *Average Balance:* Average balances are calculated using daily balances. Amortized cost is used to compute the average balances for most of our financial instruments, including MPF Loans held in portfolio (including those that are on nonaccrual status) and available-for-sale debt securities. Fair value is used to compute average balances for our trading debt securities and financial instruments carried at fair value under the fair value option.
- *Total Interest:* Total interest includes the net interest income components, as discussed above, applicable to our interest earning assets and interest bearing liabilities.
- *Yield/Rate:* Effective yields/rates are based on total interest and average balances as defined above. Yields/rates are calculated on an annualized basis. The calculation of the yield on our available-for-sale securities does not give effect to changes in fair value that are reflected as a component of accumulated other comprehensive income (AOCI).
- The change in volume is calculated as the change in average balance multiplied by the current year yield. The change in rate is calculated as the change in yield multiplied by the prior year average balance. Any changes due to the combined volume/rate variance have been allocated to volume.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

2020 compared to 2019

For comparisons to 2018 see **Net Interest Income** on page 40 in our 2019 Form 10-K.

	2020			2019			Increase (decrease) due to		
	Average Balance	**Interest Income/ Expense**	**Yield/ Rate**	Average Balance	Interest Income/ Expense	Yield/ Rate	**Volume**	**Rate**	**Net Change**
For the years ended December 31,									
Investment debt securities	**$ 23,642**	**$ 497**	**2.10 %**	$ 20,575	$ 704	3.42 %	**$ 65**	**$ (272)**	**$ (207)**
Advances	**54,639**	**586**	**1.07 %**	55,203	1,333	2.41 %	**(7)**	**(740)**	**(747)**
MPF Loans held in portfolio	**10,382**	**295**	**2.84 %**	8,308	313	3.77 %	**59**	**(77)**	**(18)**
Federal funds sold and securities purchased under agreements to resell	**10,215**	**44**	**0.43 %**	11,625	253	2.18 %	**(6)**	**(203)**	**(209)**
Interest earning deposits	**1,885**	**8**	**0.42 %**	1,262	28	2.22 %	**3**	**(23)**	**(20)**
Other interest earning assets	**155**	**5**	**3.23 %**	114	4	3.51 %	**1**	**—**	**1**
Interest earning assets	**100,918**	**1,435**	**1.42 %**	97,087	2,635	2.71 %	**52**	**(1,252)**	**(1,200)**
Noninterest earning assets	**2,354**			1,797					
Total assets	**103,272**			98,884					
Consolidated obligation discount notes	**45,604**	**307**	**0.67 %**	45,699	1,038	2.27 %	**—**	**(731)**	**(731)**
Consolidated obligation bonds	**48,749**	**516**	**1.06 %**	45,273	1,109	2.45 %	**36**	**(629)**	**(593)**
Other interest bearing liabilities	**1,407**	**17**	**1.21 %**	1,012	30	2.96 %	**5**	**(18)**	**(13)**
Interest bearing liabilities	**95,760**	**840**	**0.88 %**	91,984	2,177	2.37 %	**34**	**(1,371)**	**(1,337)**
Noninterest bearing liabilities	**1,910**			1,231					
Total liabilities	**97,670**			93,215					
Net yield on interest earning assets	**$100,918**	**$ 595**	**0.59 %**	$ 97,087	$ 458	0.47 %	**$ 20**	**$ 117**	**$ 137**

- Interest income from investment debt securities decreased due to lower market interest rates in 2020 compared to the same period in 2019.
- Interest income from advances decreased primarily due to lower market interest rates in 2020 compared to the same period in 2019.
- Interest income from MPF Loans held in portfolio declined due to the lower mortgage rate environment impacting the yield earned on new loan originations, along with an increased recognition of premium amortization expense of $76 million in 2020 compared to $30 million in 2019, primarily due to an increase in loans prepaid. However, the decline in overall rate yield of the MPF portfolio was mostly offset by higher volumes, on an average basis, as new-acquisition volume continued to outpace paydown and maturity activity due to loan origination activity driven by refinancings as mortgage rates declined overall.
- Interest income from overnight Federal Funds sold and securities purchased under agreements to resell decreased due to lower market interest rates in 2020 compared to the same period in 2019.
- Interest expense on our shorter termed consolidated obligation discount notes decreased due to lower market interest rates in 2020 compared to the same period in 2019.
- Interest expense on our longer termed consolidated obligation bonds decreased due to lower market interest rates in 2020 compared to the same period in 2019.
- For details of the effect our fair value and cash flow hedge activities had on our net interest income see **Trading Securities, Derivatives and Hedging Activities, and Instruments Held Under Fair Value Option** table on page 49.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Although the Bank maintained ready access to funding throughout 2020, we have experienced some disruptions in the long-term debt markets. The impact of the COVID-19 pandemic on our overall funding costs may cause compression in net interest margin in the future as returns on our liquidity asset portfolio decline over the same time. The extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations will depend on future developments, which are uncertain and cannot be predicted. For a discussion of risks relating to our financial condition and results of operation as a result of the COVID-19 pandemic, including risks relating to our net interest margin and advance levels, see **Risk Factors** on page 23.

Noninterest income

For comparisons to 2018 see **Noninterest Income** on page 42 in our 2019 Form 10-K.

For the years ended December 31,	**2020**	2019
Trading securities	**$ 15**	$ 24
Investment securities gains	**109**	—
Derivatives and hedging activities	**(148)**	(9)
Instruments held under fair value option	**60**	35
MPF fees, **31** and 28 from other FHLBs	**54**	38
Other, net	**14**	12
Noninterest income	**$ 104**	$ 100

Investment Securities Gains

Gains on our investment securities due to sale of our AFS and HTM private label mortgage backed securities (PLMBS) were the primary driver of our increase in noninterest income for 2020. See **Note 2 - Summary of Significant Accounting Policies** for further details on our sale of PLMBS during October 2020.

Trading Securities, Derivatives and Hedging Activities, and Instruments Held Under Fair Value Option

Gains on our instruments held under fair value option were more than offset by losses in our derivatives and hedging activities and trading securities. The corresponding gains and losses for instruments held under fair value option, derivatives and hedging activities, and trading securities were primarily attributable to the decline in market interest rates in 2020 compared to 2019.

The following table details the net income effect of all of our hedging related transactions, which were recorded in the following lines in our statements of net income.

	Advances	**Investments**	**MPF Loans**	**Discount Notes**	**Bonds**	**Other**	**Total**
Year ended December 31, 2020							
Recorded in net interest income	**$ (216)**	**$ (182)**	**$ 1**	**$ (20)**	**$ 122**	**$ —**	**$ (295)**
Recorded in derivatives & hedging activities	**(86)**	**(91)**	**(3)**	**20**	**8**	**4**	**(148)**
Recorded in trading securities	**—**	**(6)**	**—**	**—**	**—**	**—**	**(6)**
Recorded on instruments held under fair value option	**64**	**—**	**(1)**	**—**	**(3)**	**—**	**60**
Total net effect gain (loss) of hedging activities	**$ (238)**	**$ (279)**	**$ (3)**	**$ —**	**$ 127**	**$ 4**	**$ (389)**
Year ended December 31, 2019							
Recorded in net interest income	$ 29	$ (52)	$ (1)	$ (25)	$ (53)	$ —	$ (102)
Recorded in derivatives & hedging activities	(40)	(11)	16	4	10	12	(9)
Recorded in trading securities	—	14	—	—	—	—	14
Recorded on instruments held under fair value option	49	—	(1)	—	(14)	1	35
Total net effect gain (loss) of hedging activities	$ 38	$ (49)	$ 14	$ (21)	$ (57)	$ 13	$ (62)

(Dollars in tables in millions except per share amounts unless otherwise indicated)

MPF fees (including from other FHLBs)

A majority of MPF fees are from other FHLBs that pay us a fixed membership fee to participate in the MPF Program and a volume based fee for us to provide services related to MPF Loans carried on their balance sheets. MPF fees also include income from other third party off balance sheet MPF Loan products and other related transaction fees. These fees are designed to compensate us for the expenses we incur to administer the program. Increases in our 2020 MPF fees were primarily driven by refinancing activity as mortgage rates declined overall, accelerating the recognition of fee income from our third party off balance sheet MPF Loan products. MPF fees have also grown as MPF Loan volume has increased as noted in **Item 6. Selected Financial Data.**

Other, net

Other, net consists primarily of fee income we earn from member standby letters of credit products, as noted in **Item 6. Selected Financial Data.**

Noninterest Expense

For comparisons to 2018 see **Noninterest Expense** on page 43 in our 2019 Form 10-K.

For the years ended December 31,	**2020**	2019
Compensation and benefits	**$ 132**	$ 115
Nonpayroll operating expenses	**94**	96
COVID-19 relief	**28**	—
Other, net	**21**	12
Noninterest expense	**$ 275**	$ 223

The following analysis and comparisons apply to the periods presented in the above table.

Compensation and benefits increased due to salary increases and increased pension-related expenses. We had 474 employees as of December 31, 2020, compared to 488 as of December 31, 2019.

Operating expenses were comparable to prior periods as we continue our planned investment in information technology, specifically applications, infrastructure and resiliency.

As further discussed in **Environmental, Social, and Governance** on page 13, in response to the COVID-19 pandemic, the Bank committed to invest approximate $30 million to the COVID-19 Relief Programs, of which $28 million was provided to members and recorded as an expenses in the second, third, and fourth quarter of 2020.

The extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations will depend on future developments, which are uncertain and cannot be predicted. For a discussion of risks relating to our financial condition and results of operation as a result of the COVID-19 pandemic, see **Risk Factors** on page 23.

Other expenses primarily increased due to net benefit costs associated with our nonqualified deferred compensation plan. Other also consists of our share of the funding for the FHFA, our regulator, and the Office of Finance, which manages the consolidated obligation debt issuances of the FHLBs. In addition, Other includes MPF related non-operating expenses/gains on the sale of real estate owned.

As noted in **Noninterest Income** on page 49, we earn MPF fees from the MPF Program, a majority of which are from other FHLBs but also include income from other third party investors. These fees are designed to offset the expenses we incur to administer the program. Our expenses relating to the MPF fees earned are included in the relevant line items in the noninterest expense table shown above. The following table summarizes MPF related fees and expenses.

For the years ended December 31,	**2020**	2019
MPF fees earned	**$ 54**	$ 38
Expenses related to MPF fees earned	**39**	34

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Assessments

We record the Affordable Housing Program (AHP) assessment expense at a rate of 10% of income before assessments, excluding interest expense on MRCS. See **Note 11 - Affordable Housing Program** to the financial statements for further details.

Other Comprehensive Income (Loss)

For comparisons to 2018 see **Other Comprehensive Income (Loss) on** page 44 in our 2019 Form 10-K.

	For the years ended December 31,		Balance remaining in AOCI as of
For the years ended December 31,	**2020**	2019	**December 31, 2020**
Net unrealized gain (loss) available-for-sale debt securities	**$ 188**	$ (107)	**$ 292**
Noncredit OTTI held-to-maturity debt securities	**85**	29	**—**
Net unrealized gain (loss) cash flow hedges	**(27)**	(7)	**(65)**
Postretirement plans	**(10)**	1	**(20)**
Other comprehensive income (loss)	**$ 236**	$ (84)	**$ 207**

Net unrealized gain (loss) on available-for-sale debt securities

The net unrealized gain on our available-for-sale (AFS) portfolio for 2020 compared to 2019 is primarily due to spreads to swaps reversing the widening (losses) initially experienced in the first quarter of 2020 resulting from the effects of the COVID-19 pandemic on the financial markets. As these securities approach maturity, we expect these net unrealized gains to reverse over the remaining life of these securities (since we expect to receive par value at maturity).

Noncredit OTTI on held-to-maturity debt securities

We recorded unrealized noncredit impairments on HTM debt securities during the last financial crisis of 2008. From our sale of HTM PLMBS in October 2020, we realized a gain on these noncredit impairments as our remaining loss balance in AOCI went to zero. See **Note 2 - Summary of Significant Accounting Policies** for more details on our sale of PLMBS during October 2020.

Net unrealized gain (loss) on cash flow hedges

The net unrealized loss on cash flow hedges for 2020 compared to 2019 was due to the decrease in market interest rates for 2020.

Postretirement plans

The loss recorded in 2020 was primarily due to an actuarial adjustment resulting from a decline in the discount rate used to calculate postretirement benefits.

We did not recognize any instrument-specific credit risk in our statements of comprehensive income as of December 31, 2020 due to our credit standing. For further details on the activity in our Other Comprehensive Income (Loss) see **Note 13 - Accumulated Other Comprehensive Income (Loss)** to the financial statements.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Statements of Condition

As of	December 31, 2020	December 31, 2019
Cash and due from banks, interest bearing deposits, Federal Funds sold, and securities purchased under agreement to resell	**$ 18,641**	$ 15,815
Investment debt securities	**24,549**	23,096
Advances	**46,695**	50,508
MPF Loans held in portfolio, net of allowance for credit losses	**10,038**	10,000
Other, net of allowance for credit losses	**433**	408
Assets	**$ 100,356**	$ 99,827
Consolidated obligation discount notes	**$ 48,643**	$ 41,675
Consolidated obligation bonds	**42,670**	50,474
Other	**2,754**	2,224
Liabilities	**94,067**	94,373
Capital stock	**2,010**	1,713
Retained earnings	**4,072**	3,770
Accumulated other comprehensive income (loss)	**207**	(29)
Capital	**6,289**	5,454
Total liabilities and capital	**$ 100,356**	$ 99,827

Cash and due from banks, interest bearing deposits, Federal Funds sold, and securities purchased under agreements to resell

Amounts held in these typically overnight accounts will vary each day based on the following:

- Interest rate spreads between Federal Funds sold and securities purchased under agreements to resell and our debt;
- Liquidity requirements;
- Counterparties available; and
- Collateral availability on securities purchased under agreements to resell.

In the fourth quarter of 2020, we maintained a sufficient pool of liquidity to support anticipated member demand for advances and letters of credit.

Investment Debt Securities

Investment debt securities increased due to purchases in our investment debt securities portfolio in 2020. This increase was partially offset by declines in our MBS/ABS securities that matured or paid down.

Advances

Advance balances decreased at the end 2020 compared to year end 2019 primarily due to a reduction in borrowing from our depository members. Many of our depository members experienced an inflow of deposits on their balance sheets along with reduced loan demand, while also having access to other liquidity sources as a result of certain government actions related to the COVID-19 pandemic. Although these factors continued to reduce our depository members' need for advances, increased advance borrowing by insurance company members has partially offset the decrease by depository members. Advance balances will vary based primarily on member demand or need for wholesale funding and the underlying cost of the advance to the member. It is possible that member demand for our advances could decline further in future periods should their funding needs change, or to the extent they elect alternative funding resources. In addition, as our advances with captive insurance companies mature, our total advance levels may decrease. For a discussion of risks relating to our captive insurance companies, and of risks relating to our advance levels as a result of the COVID-19 pandemic, see **Risk Factors** on page 23.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table sets forth the current period par amount of advances outstanding for the five largest advance borrowers:

As of		December 31, 2020	
One Mortgage Partners Corp.	[a] $	**11,000**	**24.0 %**
State Farm Mutual Automobile Insurance Company		**4,791**	**10.5 %**
The Northern Trust Company		**4,004**	**8.7 %**
Associated Bank, NA		**1,632**	**3.6 %**
First Midwest Bank		**1,405**	**3.1 %**
All other borrowers		**22,988**	**50.1 %**
Total par value	**$**	**45,820**	**100.0 %**

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

The following table presents outstanding advances by type of institution. Former members may withdraw from membership or merge with out-of-district institutions but continue to hold advances.

As of		December 31, 2020		December 31, 2019
Members				
Commercial banks	**$**	**16,902**	$	23,705
Savings institutions		**1,331**		3,359
Credit unions		**3,119**		3,282
Insurance companies		**24,358**		19,631
Community Development Financial Institutions		**30**		36
Members total		**45,740**		50,013
Former members and Housing Associates		**80**		109
Total at par		**45,820**		50,122
Fair value hedging and other adjustments		**875**		386
Balance on the statements of condition	**$**	**46,695**	$	50,508

MPF Loans Held in Portfolio, Net of Allowance for Credit Losses

MPF Loans held in portfolio slightly increased as new-acquisition volume continued to outpace paydown and maturity activity. At year end, new acquisition volume was partially driven by refinancing activity as mortgage rates declined overall. In addition to our MPF Loans held in portfolio, we have MPF off-balance sheet products, where we buy and concurrently resell MPF Loans to Fannie Mae or other third party investors or pool and securitize them into Ginnie Mae MBS.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Liquidity, Funding, & Capital Resources

Liquidity

We establish our liquidity position primarily based on the factors outlined below.

- FHFA regulations and guidance.
- Policies established by our Board of Directors.
- Member demand for short- and long-term funds.
- Maturing consolidated obligations as well as obligations arising from our normal operating activities.

We seek to be in a position to meet our members' credit and liquidity needs without maintaining excessive holdings of low-yielding liquid investments or being forced to incur unnecessarily high borrowing costs.

Liquidity from Investments

Our sources of liquidity from investments are short-term liquid assets, primarily overnight Federal Funds sold and securities purchased under agreements to resell. Our ability to utilize these investments for liquidity purposes may be affected if the credit markets experience disruptions, as discussed below.

- Our ability to use Federal Funds sold is restricted under our current policy and FHFA regulations. Specifically, we restrict these investments to short maturities and eligible counterparties as discussed in **Unsecured Short Term Investments** on page 77 because such investments are unsecured. If the credit markets experience disruptions, and as a result one of our counterparties became insolvent or otherwise defaulted on their obligation to us, these investments would not satisfy our liquidity needs and we may incur a credit loss.

- Securities purchased under agreements to resell are secured by marketable securities held by a third party custodian. If the credit markets experience disruptions, and as a result one of our counterparties became insolvent or otherwise defaulted on their obligations to us, these investments would not satisfy our liquidity needs if the collateral pledged to secure those obligations has decreased in value. In such cases, we also may suffer a credit loss. A further explanation of our credit loss methodology with respect to these agreements is set forth in **Note 8 – Allowance for Credit Losses** to the financial statements and see **Investment Debt Securities** on page 76 for further discussion and a summary of counterparty credit ratings for these investments.

Other sources of liquidity from investing activities include trading debt securities, maturing advances, and maturing MPF Loans.

Liquidity from Debt

Our source of liquidity from debt is the issuance of new consolidated obligation bonds and discount notes.

Liquidity Measures

We use different measures of liquidity as follows:

Overnight Liquidity - Our overnight liquidity requirement is established by our Asset/Liability Committee. Currently, our Asset/Liability Management Policy (ALM Policy) requires us to maintain overnight liquid assets at least equal to 3.5% of total assets. Under our ALM Policy, overnight liquidity includes money market assets, Federal Funds sold, deposits, paydowns of advances, MPF Loans with one day to maturity, and inter FHLB loans with one day to maturity. As of December 31, 2020, our overnight liquidity was $20.2 billion or 20.1% of total assets. This amount represents excess overnight liquidity of $16.7 billion over the minimum threshold of 3.5% of total assets.

Deposit Coverage - To support our member deposits, FHFA regulations require us to have an amount equal to the current deposits received from our members invested in obligations of the U.S. government, deposits in eligible banks or trust companies, or advances with maturities not exceeding five years. As of December 31, 2020, we had excess liquidity of $55.0 billion to support member deposits.

Liquidity Reserves - FHFA guidance on liquidity (the “Liquidity AB”) requires that: (i) we hold positive cash flow assuming no access to the capital markets for a period of between ten to thirty calendar days and assuming renewal of all maturing advances, and (ii) we maintain liquidity reserves between one and 20 percent of our outstanding letter of credit commitments. In connection with the Liquidity AB, the FHFA also issued a supervisory letter that identifies initial applicable thresholds for certain measures identified in the Liquidity AB. As market conditions warrant, the FHFA may update its supervisory letter to identify new thresholds within the ranges set forth in the Liquidity AB.

To satisfy our current liquidity requirements, we generally maintain increased balances in short-term or liquid investments. Depending on market conditions, the Liquidity AB may require the Bank to hold an additional amount of liquid assets, which could reduce the Bank's ability to invest in higher-yielding assets, and may in turn negatively impact net interest income. To the extent that the Bank adjusts pricing for its short-term advances and letters of credit, these products may become less competitive, which may adversely affect advance and capital stock levels as well as letters of credit levels. For additional discussion of how our liquidity requirements may impact our earnings, see **Risk Factors** starting on page 23.

In addition, we fund certain overnight or shorter-term investments and advances with debt that has a maturity that extends beyond the maturities of the related investments or advances. The Liquidity AB provides guidance on maintaining appropriate funding gaps for three-month (-10% to -20%) and one-year (-25% to -35%) maturity horizons. Subject to market conditions, the Bank's cost of funding may increase if we are required to achieve the appropriate funding gap by using longer term funding, on which we generally pay higher interest than on our short-term funding.

We are sensitive to maintaining an appropriate liquidity and funding balance between our financial assets and liabilities, and we measure and monitor the risk of refunding such assets as liabilities mature (refunding risk). In measuring the level of assets requiring refunding, we take into account their contractual maturities, as further described in the notes to the financial statements. In addition, we make certain assumptions about their expected cash flows. These assumptions include: calls for assets with such features, projected prepayments and scheduled amortizations for our MPF Loans held in portfolio, MBS and ABS investments.

The following table presents the unpaid principal balances of (1) MPF Loans held in portfolio, (2) AFS securities, and (3) HTM securities, by expected principal cash flows. The table is illustrative of our assumptions about the expected cash flow of our assets, including prepayments made in advance of maturity.

		Investment Debt Securities	
As of December 31, 2020	**MPF Loans Held in Portfolio**	**Available-for Sale**	**Held-to-Maturity**
Year of Expected Principal Cash Flows			
One year or less	$ 3,559	$ 693	$ 918
After one year through five years	3,302	2,495	369
After five years through ten years	1,679	9,824	188
After ten years	1,316	3,478	17
Total	$ 9,856	$ 16,490	$ 1,492

We consider our liabilities available to fund assets until their contractual maturity. For further discussion of the liquidity risks related to our access to funding, see **Risk Factors** starting on page 23.

FHLB P&I Funding and Contingency Plan Agreement. We have entered into an agreement with the other FHLBs and the Office of Finance regarding the Federal Reserve's intraday funding process to provide a mechanism for the FHLBs to provide liquidity to avert a shortfall in the timely payment of principal and interest on any consolidated obligations by one or more FHLBs. We may increase our liquidity ratio for a designated month out of an 11 month rotation to mitigate the risk that we are required to fund under the FHLB P&I Funding and Contingency Plan Agreement. Through the date of this report, no FHLB has been required to fund under this contingency agreement.

Funding

Conditions in Financial Markets

In November 2020, the Federal Open Market Committee (FOMC) maintained the target range for the Federal Funds rate between 0.00 to 0.25 percent and committed to continuing the programs put into place to support an economy still struggling with the impact of the COVID-19 pandemic. At its December 2020 meeting, the FOMC maintained the same target range for the Federal Funds rate and stated its intent to increase its holdings of U.S. treasuries and mortgage-backed securities. U.S. Treasury yields finished 2020 lower across all maturities, although the U.S. treasury curve steepened in the fourth quarter of 2020 relative to the end of the third quarter.

Our reliance on shorter-term funding during the year continued throughout the fourth quarter of 2020, primarily through discount notes and SOFR floating rate notes. However, funding levels for longer term debt continued to improve and finished the year at or very near historical norms.

The extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations will continue to depend on future developments, which are uncertain and cannot be predicted. For a discussion of the funding risks to the Bank as a result of the COVID-19 pandemic, including risks related to government action in response to the impact of the pandemic, see **Risk Factors** on page 23.

We maintained ready access to funding throughout 2020.

LIBOR Transition

In July 2017, the United Kingdom's (U.K.) Financial Conduct Authority (FCA), a regulator of financial services firms and financial markets in the U.K., announced its intention to cease sustaining the LIBOR indices after 2021. In response, the Federal Reserve Board (FRB) and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee (ARRC) to identify a set of alternative reference interest rates for possible use as market benchmarks. The ARRC has identified the Secured Overnight Financing Rate (SOFR) as its recommended alternative rate. SOFR is based on a broad segment of the overnight Treasuries repurchase market and is intended to be a measure of the cost of borrowing cash overnight collateralized by Treasury securities. The Federal Reserve Bank of New York began publishing SOFR rates in April 2018 and the FHLB System issued its first SOFR-linked debt in the market on November 13, 2018. On November 18, 2020, the Intercontinental Exchange Benchmark Administration Limited (IBA), LIBOR's administrator, announced its intent to publish a consultation seeking industry feedback on its proposal to cease 1-week and 2-month USD LIBOR after December 31, 2021, and extending publication of all remaining USD LIBOR tenors through June 30, 2023. On November 30, 2020, the Federal Reserve Board, Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency issued a joint statement urging banks to cease entering into new LIBOR transactions after 2021 notwithstanding the IBA's proposal. The IBA published its consultation on December 4, 2020, with a comment deadline of January 25, 2021. Many of our assets and liabilities are indexed to LIBOR, some with maturities or termination dates extending past December 31, 2021.

In 2019, the FHFA issued a Supervisory Letter (the "Supervisory Letter") that the FHFA stated is designed to ensure the FHLBs will be able to identify and prudently manage the risks associated with the termination of LIBOR in a safe and sound manner. Among other things, the Supervisory Letter provides that the FHLBs should cease entering into certain transactions referencing LIBOR that mature after December 31, 2021. Accordingly, we previously ceased entering into option embedded advance products that reference LIBOR and have ceased purchasing investments that reference LIBOR and mature after December 31, 2021. Effective July 1, 2020, we suspended transactions in certain structured advances and advances with terms directly linked to LIBOR that mature after December 31, 2021. Also as of July 1, 2020, we no longer enter into consolidated obligation bonds and derivatives with swaps, caps, or floors indexed to LIBOR that terminate after December 31, 2021. For further discussion of the risks related to the replacement of LIBOR, see the **Risk Factors** section starting on page 23.

We continue to evaluate and plan for the eventual replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as the primary replacement rate for investments and advances. We have developed an initial LIBOR transition action plan and convened a project team to implement the transition, which is led by a senior executive and comprised of representatives from various areas across the Bank. Our Asset-Liability Management Committee (ALCO) is the management committee responsible for overseeing the transition from LIBOR. In assessing our current exposure to LIBOR, we have developed an inventory of financial instruments impacted and identified contracts that may require adding or adjusting the "fallback" language which provides for contractual alternatives to the use of LIBOR when LIBOR cannot be determined based on the method provided in the agreement. We have amended the terms of certain advance products to include fallback language and the OF has added or adjusted fallback language applicable to FHLB consolidated obligations. For over the counter derivatives, as discussed in the **Recent Legislative and Regulatory Developments** section of this Form 10-K on page 21, we have adhered to the ISDA 2020 IBOR Fallbacks Protocol. For cleared derivatives, as part of the transition from LIBOR to SOFR, the clearinghouses revised their discounting methodology used to calculate the present value of future cash flows and price alignment on variation margin for USD cleared swaps from the daily Effective Federal Funds Rate (EFFR) to SOFR. In October 2020, both of our clearinghouses, LCH Limited and CME Clearing, implemented their own unique cash and basis swap compensation mechanisms for market participants to neutralize any value transfer discrepancies from the LIBOR to SOFR conversion. On December 14, 2020 and January 14, 2021, LCH Limited and CME Clearing, respectively, issued consultations seeking industry feedback on proposals to transition legacy LIBOR-linked cleared derivatives to mark-to-market OIS contracts that follow risk-free rate standards, such as SOFR, with a one-time cash adjustment to address valuation changes. Under the proposals, such transition would occur prior to such legacy swaps converting to a fallback rate under the ISDA 2020 IBOR Fallbacks Protocol upon the effective date of LIBOR discontinuation. We continue to monitor the market-wide efforts to address fallback language related to cleared derivatives and investment securities as well as fallback language for new activities and issuances of financial instruments. We continue to assess our operational readiness, including updating our processes and information technology systems to support the transition from LIBOR to an alternative reference rate.

Market activity in SOFR-indexed financial instruments continues to increase, including the emergence of a SOFR-based derivative market, and we continue to participate in the issuance of SOFR-indexed consolidated bonds. For the year ended December 31, 2020, we have participated in the issuance of $29.6 billion in SOFR-linked consolidated bonds. We are using

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Federal Funds Overnight Index Swap (Fed Funds OIS) swaps and SOFR-indexed swaps as an interest rate hedging strategy for financial instruments that do not have embedded options, as an alternative to using LIBOR when entering into new derivative transactions. We are offering SOFR-linked advances to our members, and for the year ended December 31, 2020, have issued $373 million in SOFR-linked advances. For a discussion of risks relating to our use of SOFR-linked consolidated obligations and advances, see **Risk Factors** on page 23. We also offer Discount Note-index floater advances, which some members have used as alternatives to LIBOR-linked advance products.

Variable-Rate Financial Instruments by Interest-Rate Index and LIBOR-Indexed Financial Instruments

We have advances, investment securities, consolidated bonds, and derivatives with interest rates indexed to LIBOR. The following tables presents our variable rate financial instruments by interest-rate index at December 31, 2020 and may not include instruments that indirectly incorporate LIBOR or another interest rate index. The tables also do not consider the impact of any fallback language contained in our financial products. ABS and MBS are presented by contractual maturity, however, 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. We sold LIBOR indexed AFS and HTM PLMBS during October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies** to the financial statements.

	As of December 31, 2020			**As of December 31, 2019**		
	Advances	**Investments**	**Consolidated Obligations**	**Advances**	**Investments**	**Consolidated Obligations**
Principal amount of variable rate instruments outstanding [a]						
LIBOR	**$ 1,440**	**$ 3,239**	**$ (750)**	$ 4,069	$ 4,003	$ (8,684)
SOFR	**190**	**60**	**(23,842)**	8	—	(11,836)
Treasury	**—**	**141**	**—**	—	—	—
Other	**16,216** [b]	**2**	**—**	21,676 [b]	489	—
Total	**$ 17,846**	**$ 3,442**	**$ (24,592)**	$ 25,753	$ 4,492	$ (20,520)
LIBOR indexed instruments principal amount outstanding by contractual maturity/termination date						
Due in 2021	**$ 112**	**$ —**	**$ (500)**	$ 1,119	$ 42	$ (8,400)
Due in 2022 and thereafter	**1,328**	**3,239**	**(250)**	2,950	3,961	(284)
Total	**$ 1,440**	**$ 3,239**	**$ (750)**	$ 4,069	$ 4,003	$ (8,684)

	Year ended December 31, 2020			Year ended December 31, 2019		
Principal amount of SOFR-linked instruments issued	**$ 373**	**$ —**	**$ (29,596)**	$ 18	$ —	$ (11,836)

[a] With respect to advances, includes fixed rate advances that have cap/floor optionality linked to an interest rate index.
[b] Consists primarily of advances indexed to consolidated obligation yields.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

	As of December 31, 2020		As of December 31, 2019	
	Derivative Notional Amount Outstanding		Derivative Notional Amount Outstanding	
	Pay Leg	Receive Leg	Pay Leg	Receive Leg
Interest rate swaps outstanding				
Fixed rate	**$ 37,804**	**$ 12,951**	$ 32,398	$ 41,378
LIBOR	**6,341**	**20,393**	21,197	23,488
SOFR	**1,183**	**1,444**	158	20
OIS	**5,427**	**15,967**	20,057	7,024
Other	**—**	**—**	—	1,900
Total interest rate swaps	**$ 50,755**	**$ 50,755**	$ 73,810	$ 73,810
LIBOR indexed interest rate swaps by contractual maturity/termination date				
Maturity/termination in 2021	**$ 1,654**	**$ 1,487**	$ 7,832	$ 3,532
Maturity/termination in 2022 and thereafter	**3,226**	**10,075**	3,226	9,707
Total cleared	**4,880**	**11,562**	11,058	13,239
Maturity/termination in 2021	**725**	**879**	4,606	2,529
Maturity/termination in 2022 and thereafter	**736**	**7,952**	5,533	7,720
Total uncleared	**1,461**	**8,831**	10,139	10,249
Total LIBOR indexed interest rate swaps	**$ 6,341**	**$ 20,393**	$ 21,197	$ 23,488

Liquidity Analysis - Statement of Cash Flows

Our assets and liabilities support our mission to provide our member shareholders competitively priced funding, a reasonable return on their investment in our capital stock, and support for their community investment activities. Our assets and liabilities can vary significantly in the normal course of business due to the amount and timing of cash flows, which are affected by member-driven activities and market conditions. We believe the cash flows from our operating and financing activities are sufficient to fund both our operating and investing liquidity needs. The following tables compare our significant cash flow activities in 2020 and 2019.

For comparisons to 2018 see **Liquidity Analysis - Statement of Cash Flows** on page 51 in our 2019 Form 10-K.

Cash flows from operating activities with significant activity

For the years ended December 31,	**2020**	2019
Net income	**$ 374**	$ 300
Change in net fair value on derivatives and hedging activities	**(579)**	(557)
Other	**(110)**	114
Net cash provided by (used in) operating activities	**$ (315)**	$ (143)

The majority of our operating cash outflows in 2020 were related to cash sent daily to clearinghouses to settle mark-to-market derivative positions with them, which were significantly higher in 2020 due to the COVID-19 pandemic impact on market volatility, which occurred primarily in the first quarter and has gradually reduced by year-end.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Cash flows from investing activities with significant activity

For the years ended December 31,	**2020**	2019
Net cash flows on interest bearing deposits, Federal Funds sold, and securities purchased under agreement to resell	**$ 686**	$ (4,407)
Net cash flows on investment debt securities	**(725)**	(1,659)
Net cash flows on advances	**4,301**	2,481
Net cash flows on MPF Loans held in portfolio	**(119)**	(2,924)
Other	**(38)**	5
Net cash provided by (used in) investing activities	**$ 4,105**	$ (6,504)

Our investing activities consist predominantly of liquid assets, investment debt securities, advances, and MPF Loans in portfolio. The change in net cash provided by (used in) investing activities and changes in allocation within investing activities are discussed below.

- In 2020, our liquid assets were reduced as we funded increased investment debt securities. In 2019, we invested in liquid assets to increase our liquidity position to comply with new FHFA liquidity guidance. We continue to maintain compliance with this guidance.
- We decreased our investment debt security purchases in 2020, as we maintained compliance with key liquidity, MBS, and mission asset ratios.
- Our advances outstanding decreased by a greater amount in 2020 due to decreased depository member demand for funding compared to 2019.
- Net investment in MPF Loans held in portfolio in 2020 declined relative to a larger increase in 2019 as the low mortgage rate environment has caused elevated borrower home refinancings and the commensurate acceleration in the rate of principal paydowns in our portfolio, relative to new loan acquisitions.

Cash flows from financing activities with significant activity

For the years ended December 31,	**2020**	2019
Net cash provided by (used in) financing activities -		
Net cash flows on consolidated obligation discount notes	**$ 7,040**	$ (1,495)
Net cash flows on consolidated obligation bonds	**(7,940)**	7,903
Other	**622**	240
Net cash provided by (used in) financing activities	**$ (278)**	$ 6,648

Our financing activities primarily reflect cash flows related to issuing and repaying consolidated obligation bonds and discount notes. The change in net cash provided by (used in) financing activities and change in funding allocations are discussed below.

- We reduced our overall consolidated obligation debt financing to match the overall decline in assets as discussed in investing activities above while our mix of new funding in 2020 switched to predominantly shorter termed discount notes as we paid down longer termed bonds.
- Other financing activities increased primarily due to an increase in member deposits at our Bank.

Sources of Funding

We fund our assets principally with consolidated obligations (bonds and discount notes) issued through the Office of Finance, deposits, and capital stock. As of December 31, 2020, our consolidated obligations were rated AA+ (with outlook stable) by S&P and Aaa (with outlook stable) by Moody's. Consolidated obligations have GSE status although they are not obligations of the United States and the United States does not guarantee them.

Reliance on short-term debt offers us certain advantages which are weighed against the increased risk of using short-term debt. Traditionally we have benefited from interest rates below LIBOR rates for our short-term debt which has resulted in a positive impact on net interest income when used to fund LIBOR-indexed assets. We expect similar relationships to hold as we transition away from LIBOR to other indexes. For a discussion of risks relating to the LIBOR transition, please see **Risk Factors** on page 23.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table summarizes our short-term discount notes and consolidated obligation bonds with original maturities of one year or less. Weighted average rates exclude hedging adjustments.

For comparisons to 2018 see **Sources of Funding** on page 52 in our 2019 Form 10-K.

	Discount Notes (carrying amount)		Short-Term Consolidated Obligation Bonds (par value)	
As of or for the years ended December 31,	**2020**	2019	**2020**	2019
Outstanding at period end	**$ 48,643**	$ 41,675	**$ 18,652**	$ 14,103
Weighted average rate at period-end	**0.10 %**	1.61 %	**0.20 %**	1.68 %
Daily average outstanding for the year-to-date period	**$ 45,628**	$ 45,814	**$ 17,484**	$ 13,084
Weighted average rate for the year-to-date period	**0.62 %**	2.20 %	**0.44 %**	1.81 %
Highest outstanding at any month-end during the year-to-date period	**$ 49,215**	$ 47,647	**$ 23,641**	$ 14,300

We comply with FHFA regulations that require we maintain the following types of assets free from any lien or pledge in an amount at least equal to the amount of our 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 U.S. government; and
- investments described in Section 16(a) of the FHLB Act, which, among other items, includes securities that a fiduciary or trust fund may purchase under the laws of the state in which the FHLB is located.

At December 31, 2020, we had eligible assets free from pledges of $98.9 billion, compared to our outstanding consolidated obligations of $91.3 billion.

The Office of Finance has responsibility for the issuance of consolidated obligations. It also services all outstanding debt, provides us with information on capital market developments, manages our relationship with ratings agencies with respect to consolidated obligations, and prepares the FHLBs' combined quarterly and annual financial statements. The Office of Finance will allocate the proceeds from the issuance of consolidated obligations that cannot be issued in sufficient amounts to satisfy all FHLB demand for funding during periods of financial distress and when its existing allocation processes are deemed insufficient. In general, the proceeds in such circumstances will be allocated among the FHLBs based on 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 disruption in our ability to access the capital market, market conditions or this allocation could adversely impact our ability to finance our operations, which could thereby adversely impact our financial condition and results of operations.

Consolidated Obligation Bonds

Consolidated obligation bonds (bonds) satisfy term funding requirements and are issued under various programs. The maturities of these securities may range from less than one year to over 20 years, but they are not subject to any statutory or regulatory limits on maturity. The bonds can be fixed- or adjustable-rate, and callable or non-callable. We also offer fixed-rate, non-callable (bullet) bonds via the FHLBs' Tap issue program. This program uses specific maturities that may be reopened daily during a three month period through competitive auctions. The goal of the Tap program is to aggregate frequent smaller issues into a larger bond issue that may have greater market liquidity.

Although we issue fixed-rate bullet and callable bonds, we may also issue bonds that have adjustable rates, step-up rates that step-up or increase at fixed amounts on predetermined dates, zero-coupons, and other types of rates. See **Note 10 - Consolidated Obligations** to the financial statements for details. Bonds are issued and distributed daily through negotiated or competitively bid transactions with approved underwriters or selling groups.

We receive 100% of the net proceeds of a bond issued via direct negotiation with underwriters of FHLB debt when we are the only FHLB involved in the negotiation; we are the sole FHLB that is primary obligor on the bond in those cases. When we and one or more other FHLBs jointly negotiate the issuance of a bond directly with underwriters, we receive the portion of the proceeds of the bond agreed upon with the other FHLBs; in those cases, we are primary obligor for the pro rata portion of the bond based on proceeds received. The majority of our bond issuance is conducted via direct negotiation with underwriters of the FHLB bonds, some with, and some without, participation by other FHLBs.

We may also request specific bonds to be offered by the Office of Finance for sale via competitive auction conducted with underwriters in a bond selling group. One or more other FHLBs may request amounts of the same bonds to be offered for sale for their benefit via the same auction. We may receive from 0% to 100% of the proceeds of the bonds issued via competitive auction depending on:

- the amount and cost for the bonds bid by underwriters;
- the maximum cost we or other FHLBs participating in the same issue, if any, are willing to pay for the bonds; and
- guidelines for allocation of the bond proceeds among multiple participating FHLBs administered by the Office of Finance.

We also participate in the Global Issuances Program, under which the FHLB System, through the Office of Finance, maintains a process for scheduled issuance of global fixed-rate consolidated bonds. As part of this process, management from each FHLB determines and communicates a firm commitment to the Office of Finance for an amount of scheduled global debt to be issued on its behalf. If the FHLBs' orders do not meet the minimum debt issuance size, each FHLB receives an allocation of proceeds equal to the larger of the FHLB's commitment or the ratio of the individual FHLB's capital to total capital of all of the FHLBs. If the FHLBs' commitments exceed the minimum debt issuance size, then the proceeds are allocated based on actual commitment amount. The FHLBs can, however, pass on any scheduled calendar slot and decline to issue any global consolidated obligations under this program upon agreement of at least eight of the 11 FHLBs.

Consolidated Obligation Discount Notes

The FHLBs sell consolidated obligation discount notes (discount notes) in the capital markets to provide short-term funds for advances to members, for seasonal and cyclical fluctuations in savings flows, and for mortgage financing and investments. Discount notes have maturities up to 365 days and are sold through a selling group and through other authorized securities dealers. Discount notes are sold at a discount and mature at par.

On a daily basis, we may request specific amounts of discount notes with specific maturity dates to be offered by the Office of Finance at a specific cost for sale to underwriters in the selling group. One or more other FHLBs may also request an amount of discount notes with the same maturity to be offered for sale for their benefit on the same day. The Office of Finance commits to issue discount notes on behalf of the participating FHLBs when underwriters in the selling group submit orders for the specific discount notes offered for sale. We may receive from zero to 100% of the requested proceeds depending on: the maximum costs we or other FHLBs participating in the same discount notes, if any, are willing to pay for the discount notes; the amount of orders for the discount notes submitted by underwriters; and guidelines for allocation of discount note proceeds among multiple participating FHLBs administered by the Office of Finance.

Twice weekly, we may also request specific amounts of discount notes with fixed maturity dates ranging from four weeks to 26 weeks to be offered by the Office of Finance for sale via competitive auction conducted with underwriters in the selling group. The bi-weekly discount note auction uses a single-price (Dutch) award method to determine winning bids. One or more FHLBs may also request amounts of those same discount notes to be offered for sale for their benefit via the same auction. We may receive from zero to 100% of the requested proceeds depending on the amounts and costs for the discount notes bid by the underwriters and guidelines for allocation of discount note proceeds among multiple participating FHLBs administered by the Office of Finance. The majority of our issuances are conducted via the twice weekly auctions.

Deposits

We accept deposits from our members, institutions eligible to become our members, institutions for which we are providing correspondent services, other FHLBs, and other government instrumentalities such as the FDIC. We offer several types of deposits to our deposit customers including demand, overnight, and term deposits. Deposits are not a significant source of funding for our operations and are primarily offered for the convenience of our members doing business with us.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table presents average deposit balances and the rate paid. For comparisons to 2018 see **Deposits** on page 54 in our 2019 Form 10-K.

For the years ended December 31,	**2020**	2019
Average outstanding interest bearing	**$ 1,114**	$ 693
Average outstanding non-interest bearing	**431**	166
Interest expense	**2**	14
Weighted average rate interest bearing	**0.22 %**	2.02 %

Capital Resources

Capital Rules

Under our Capital Plan our stock consists of two sub-classes of stock, Class B1 stock and Class B2 stock (together, Class B stock), both with a par value of $100 per share and redeemable on five years' written notice, subject to certain conditions. Under the Capital Plan, each member is required to own capital stock in an amount equal to the greater of a membership stock requirement or an activity stock requirement. All stock that supports a member's activity stock requirement with the Bank is classified as Class B1 activity stock. Any additional amount of stock necessary for the total amount of Class B stock held to equal a member's minimum investment amount will be classified as Class B2 membership stock. Members purchase Class B2 membership stock to satisfy their membership stock requirement with the Bank.

Effective as of July 1, 2020, the Bank amended and restated its Capital Plan (the amended and restated capital plan is referred to as the "Capital Plan" and the former capital plan is referred to as the "Previous Plan"). The Capital Plan continues the Bank's commitment to provide members a reasonable return on their investment by allowing members who engage in advance activity to hold more Class B1 activity stock. The Capital Plan also provides tighter ranges on Class B2 membership stock requirement and Class B1 activity stock requirement. The Capital Plan includes changes to streamline operational aspects regarding the purchase and sale of Bank stock in order to improve the member experience and increase efficiency. Additionally, in order to maintain capacity to offer MPF on-balance sheet products and to ensure the Bank can continue to support member demand for letters of credit, effective May 3, 2021, the Bank will begin assessing capital stock for these products, as further described in the table below.

The following table reflects the ranges of capital stock requirements permitted under our Capital Plan and requirements at year-end 2019 and 2020, as well as recently announced changes:

Capital Plan Requirement	**December 31, 2019**	**December 31, 2020**	**Changes Effective May 3, 2021**	**Ranges Permitted Under Capital Plan**
% of Mortgage Assets [a]	0.40%	0.40%	Unchanged	0.20% - 1%
Membership Stock Floor	$10,000	$10,000	Unchanged	None
Membership Stock Cap	$5 million	$5 million	Unchanged	$1 million - $25 million
B1/B2 Threshold [b]	$10,000	None	Unchanged	None
Advances Activity Stock Requirement [c]	4.50%	4.50%	Unchanged	4%-5%
MPF Activity Stock Requirement	0%	0%	2% [d]	0%-5%
Letters of Credit Activity Stock Requirement	None	0%	0.10% [e]	0%-2% [f]

[a] The percentage of mortgage assets is used to calculate a member's membership stock requirement.
[b] The amount of a member's Class B2 stock that exceeds this "threshold" and is necessary to support advance activity is automatically converted to Class B1 stock.
[c] The Board of Directors may adjust this percentage to as low as 2% for certain advances and has currently authorized a pool of funds available for advances that can be capitalized at 2% under the Bank's Reduced Capitalization Advance Program (RCAP).
[d] On November 18, 2020, the Bank announced that effective May 3, 2021, for MPF on-balance sheet products (which includes MPF Original, MPF 125, MPF 35, and MPF Government loans), the new activity stock requirement is 2% of the principal loan amount sold into the master

commitment.
[e] On November 18, 2020, the Bank announced that effective May 3, 2021, for letters of credit, the new activity stock requirement is 0.10% of the notional amount of all letters of credit outstanding on behalf of a member.
[f] Effective May 3, 2021, in connection with implementing a new activity stock requirement for letters of credit, the Bank amended its Capital Plan to increase the lower end of the range for the letters of credit activity stock requirement from 0 to 0.10%. Therefore, the new range for the letter of credit activity stock requirement will be 0.10% to 2%.

Membership stock requirements will continue to be recalculated annually, whereas the activity stock requirement and any automatic conversion of Class B2 stock to Class B1 stock will apply on a daily basis.

We may only redeem or repurchase capital stock from a member if, following the redemption or repurchase, the member continues to meet its minimum investment requirement and we remain in compliance with our regulatory capital requirements discussed below.

Members that withdraw from membership must wait at least five years after their membership was terminated and all of their capital stock was redeemed or repurchased before being readmitted to membership in any FHLB.

Under the terms of our Capital Plan, our Board of Directors is authorized to amend the Capital Plan, and the FHFA must approve all such amendments before they become effective.

Reduced Capitalization Advance Program

During 2020, we continued to offer our Reduced Capitalization Advance Program (RCAP), which allows members to borrow both short-term and long-term advances with an activity stock requirement of only 2% for the life of the advance instead of the current 4.5% requirement under our Capital Plan's general provisions. As of December 31, 2020, RCAP advances outstanding total $21.9 billion to 449 members. There was a significant increase in the number of members participating in RCAP as a result of our COVID-19 Relief Program, as further discussed in **COVID-19 Relief Programs** on page 13. We may implement future programs for advances with a reduced activity stock requirement that may or may not have the same characteristics as current RCAP offerings.

Minimum Capital Requirements

We are subject by regulation to the following three capital requirements:

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

For tables showing our compliance with the total capital ratio and leverage capital ratio as well as further details on all of our capital requirements, see **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements.

Under the risk-based capital requirement (which was amended effective January 1, 2020, as discussed below), we must maintain permanent capital equal to the sum of our (i) credit risk capital requirement, (ii) market risk capital requirement, and (iii) operational risk capital requirement, as outlined below:

- Credit Risk Capital Requirement. The credit risk capital requirement is the sum of our individual capital charges for all advances, residential mortgage assets, CMOs, non-mortgage assets, non-rated assets, off balance sheet items, and derivatives contracts. These capital charges are calculated using the methodologies and percentages assigned by the FHFA regulations to each class of assets.

- Market Risk Capital Requirement. The market risk capital requirement is the market value of our portfolio at risk from movements in interest rates, foreign exchange rates, commodity prices, and equity prices that could occur during periods of market stress, where the market value of our portfolio at risk is determined using an FHFA approved internal market-risk model pursuant to FHFA regulations.

- Operational Risk Capital Requirement. The operational risk capital requirement is 30% of the sum of our (a) credit risk capital requirement and (b) market risk capital requirement.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table summarizes our risk-based capital amounts. Under the FHFA regulation on capital classifications and critical capital levels for the FHLBs, we were adequately capitalized.

As of	**December 31, 2020**	December 31, 2019
Capital stock	**$ 2,010**	$ 1,713
Mandatorily redeemable capital stock (MRCS) recorded as a liability	**279**	324
Retained earnings	**4,072**	3,770
Total permanent capital	**$ 6,361**	$ 5,807
Credit risk capital	**$ 297**	$ 657
Market risk capital	**924**	221
Operational risk capital	**366**	263
Total risk based capital requirement	**$ 1,587**	$ 1,141
Excess permanent capital stock over risk based capital requirement	**$ 4,774**	$ 4,666

Effective January 1, 2020 amended FHFA regulations revised: (1) the credit risk component of the risk-based capital requirements through certain changes to the capital charges assigned to advances, non-mortgage assets, off-balance sheet assets and derivatives, and (2) the market risk component of the requirements by repealing the 85% requirement (i.e., that market risk capital include an amount equal to the market value of the Bank's total capital that is less than 85% of the book value of the Bank's total capital).

Statutory and Regulatory Restrictions on Capital Stock Repurchase and Redemption

In accordance with the FHLB Act, our capital stock is considered putable with restrictions given the significant restrictions on the obligation/right to redeem.

We cannot redeem shares of stock from any member if:

- the principal or interest on any consolidated obligation is not paid in full when due;
- we fail to certify in writing to the FHFA that we will remain in compliance with our liquidity requirements and will remain capable of making full and timely payment of all of our current obligations;
- we notify the FHFA that we cannot provide the required quarterly certification, or project that we will fail to comply with statutory or regulatory liquidity requirements, or will be unable to timely and fully meet all of our current obligations; or
- we actually fail to comply with statutory or regulatory liquidity requirements or to timely and fully meet all of our current obligations, or enter or negotiate to enter into an agreement with one or more other FHLBs to obtain financial assistance to meet our current obligations.

Additional statutory and regulatory restrictions on the redemption and repurchase of our capital stock include the following:

- In no case may we redeem or repurchase capital stock if, following such redemption, we would fail to satisfy our minimum regulatory capital requirements established by the GLB Act or the FHFA.
- In no case may we redeem or repurchase capital stock if either our Board of Directors or the FHFA determines that we have incurred, or are likely to incur, losses resulting or expected to result in a charge against capital stock. In addition to being able to prohibit capital stock redemptions and repurchases, our Board has a right to call for additional capital stock purchases by members, as a condition of continuing membership, as needed for us to satisfy our statutory and regulatory capital requirements.

The FHLB Act provides that, in accordance with rules, regulations, and orders that may be prescribed by the FHFA, we may be liquidated or reorganized and our capital stock paid off and retired, in whole or in part, after paying or making a provision for payment of our liabilities. The FHLB Act further provides that, in connection with any such liquidation or reorganization, any other FHLB may, with the approval of the FHFA, acquire our assets and assume our liabilities, in whole or in part.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Capital Amounts

The following tables, respectively, presents our five largest holders of regulatory capital stock and reconciles our capital reported in our statements of condition to the amount of capital stock reported for regulatory purposes. MRCS is included in the calculation of the regulatory capital and leverage ratios but is recorded as a liability in the statements of condition.

As of December 31, 2020	Regulatory Capital Stock Outstanding	% of Total Outstanding	Amount of Which is Classified as a Liability (MRCS)
One Mortgage Partners Corp. [a]	$ 245	10.7 %	$ 245
State Farm Mutual Automobile Insurance Company	216	9.4 %	—
The Northern Trust Company	205	9.0 %	—
Alliant Credit Union	101	4.4 %	—
Associated Bank, NA	82	3.6 %	—
All other members	1,440	62.9 %	34
Regulatory capital stock	$ 2,289	100.0 %	$ 279

	December 31, 2020	December 31, 2019
Capital Stock	$ 2,010	$ 1,713
MRCS	279	324
Regulatory capital stock	$ 2,289	$ 2,037

Capital stock	$ 2,010	$ 1,713
Retained earnings	4,072	3,770
Accumulated other comprehensive income (loss)	207	(29)
GAAP capital	$ 6,289	$ 5,454

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

Accumulated other comprehensive income (loss) in the above table consists of changes in market value of various balance sheet accounts where the change is not recorded in earnings but are instead recorded in equity capital as the income (loss) is not yet realized. For details on these changes please see **Note 13 - Accumulated Other Comprehensive Income (Loss)** to the financial statements.

Components of total GAAP capital changed for the following reasons:

- The increase in capital stock corresponds to our members' increased use of our advances to support their borrowings.
- Total retained earnings increased due to our net income less dividends paid; see **Statements of Capital** on page F-7 for details.

Beginning in February 2020, the FHFA considers the proportion of capital stock to assets, measured on a daily average basis at month end, when assessing each FHLB's capital management practices. To maintain the recommended level of capital stock under this FHFA guidance, we may reduce investments as necessary, which may have a negative impact on our financial condition and results of operation. If our balance sheet composition changes in the future, we may consider other capital management measures to maintain the recommended ratio of at least two percent of capital stock to total assets. This capital stock ratio does not include other components of regulatory capital, such as retained earnings.

Repurchase of Excess Capital Stock

Members may request repurchase of excess stock on any business day. Additionally, starting on March 15, 2021, and continuing on a monthly basis, the Bank will repurchase excess stock held by each member or former member that exceeds certain thresholds set by the Bank. All repurchases of excess capital stock, including any future monthly repurchases, will continue until otherwise announced, but remain subject to our regulatory requirements, certain financial and capital thresholds, and prudent business practices.

Repurchase of excess capital stock held by members is subject to compliance with the following financial and capital thresholds both before and after repurchase:

- The ratio of our total capital to total assets is greater than or equal to 4.25%;
- Our ratio of the Bank's market value of equity to book value of equity is at least 85% on a U.S. GAAP basis;
- Our risk-based capital is greater than or equal to 125% of the minimum amount required, as discussed in **Capital Resources** on page 62;
- Compliance with all of our minimum regulatory capital requirements;
- Projected compliance with each of our minimum regulatory capital requirements for the next four quarters using the most recent expected case income projections; and
- Compliance with our contractual obligations under the Joint Capital Enhancement Agreement, as discussed in **Joint Capital Enhancement Agreement with other FHLBs** on the next page.

For further information on amounts of excess stock repurchased, see **Statements of Capital** to the financial statements on page F-7.

Retained Earnings & Dividends

Dividend Payments

FHFA rules state that FHLBs may declare and pay dividends only from previously retained earnings or current net earnings, and may not declare or pay dividends based on projected or anticipated earnings. Under our Capital Plan, any dividend declared on Class B1 shares must be greater than or equal to the dividend declared on Class B2 shares for the same period, and dividends may be paid in the form of cash or stock, or a combination of both. All dividends we have paid since 2011 have been in cash rather than stock. We have paid an enhanced dividend on Class B1 activity stock since the fourth quarter of 2013.

Although we continue to work to maintain our financial strength to support a reasonable dividend, any future dividend payment remains subject to declaration by our Board and will depend on future operating results, our Retained Earnings and Dividend Policy, and any other factors the Board determines to be relevant.

We may not pay dividends if we fail to satisfy our minimum capital and liquidity requirements under the FHLB Act and FHFA regulations. Further, under FHFA regulations, we may not pay any dividends in the form of capital stock if excess stock held by our shareholders is greater than 1% of our total assets or if, after the issuance of such shares, excess stock held by our shareholders would be greater than 1% of our total assets.

Retained Earnings and Dividend Policy

Our Board of Directors has adopted a Retained Earnings and Dividend Policy (Policy) which, as last updated in December 2020, establishes a target for retained earnings to provide a cushion against the potential for loss that could impact shareholder value. Specifically, the Policy requires us to establish an overall target for retained earnings incorporating the following components:

- Risk-based targets based on estimates using regulatory-based estimates for credit risk and market risk, and additional estimates for exposures related to (a) operational risk, (b) repurchase risk arising from obligations to third party investors from loans originated under the MPF Program, (c) settlement risk relating to unsettled consolidated obligations and investment debt securities, (d) accounting risk related to hedge accounting and credit loss accounting, and (e) the amount of loans (net of reserves) outstanding under the Bank’s Community First Fund;

- Retained Earnings average annual growth rate that mirrors the general growth of the economy in order to preserve both its risk-bearing and income-generating capacity; and

- Risk-adjusted capital target that would allow the Bank to meet regulatory capital requirements without reliance on risk-based retained earnings under stressful conditions.

Under the Policy, we may, but are not required, to pay a dividend out of our net income (with certain adjustments as described below) or retained earnings, after consideration of the retained earnings target on a quarterly basis and management's assessment of the current adequacy of retained earnings. The maximum dividend allowed would align with requirements set forth in the Policy regarding target levels of retained earnings and risk-adjusted capital, and achievement of risk-based targets. The Board may declare a dividend less than the maximum dividend permitted under the Policy. For these purposes, adjusted net income is net income resulting directly from certain business activities, excluding income from such activities as advance prepayments, transfers of debt to other FHLBs and gains or losses resulting from certain hedge practices.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Our Board of Directors declared quarterly cash dividends at annualized percentage rates per $100 of par value as presented in the below table (based on the previous quarter's earnings).

Quarter in which dividend was declared (recorded) and paid	B1 Activity Stock		B2 Membership Stock	
	Dividends	Annualized Rate	Dividends	Annualized Rate
2020				
1st quarter	**$ 20**	**5.00 %**	**$ 1**	**2.25 %**
2nd quarter	**18**	**5.00 %**	**2**	**2.25 %**
3rd quarter	**20**	**5.00 %**	**2**	**2.25 %**
4th quarter	**19**	**5.00 %**	**2**	**2.25 %**
Total	**$ 77**	**5.00 %**	**$ 7**	**2.25 %**
2019				
1st quarter	$ 20	5.00 %	$ 1	2.00 %
2nd quarter	20	5.00 %	1	2.25 %
3rd quarter	19	5.00 %	1	2.25 %
4th quarter	19	5.00 %	1	2.25 %
Total	$ 78	5.00 %	$ 4	2.19 %

On January 29, 2021, based on our financial results for the fourth quarter of 2020, the Board of Directors declared a cash dividend of 5.00% (annualized) for Class B1 activity stock and a cash dividend of 2.00% (annualized) for Class B2 membership stock. This dividend totaled $25 million (recorded as $22 million dividends on capital stock and $3 million interest expense on mandatorily redeemable capital stock) and was paid on February 11, 2021. As further discussed in **Executive Summary** on page 41, on January 29, 2021, the Bank also provided dividend guidance for the next two quarters.

Joint Capital Enhancement Agreement with other FHLBs

The FHLBs, including us, entered into a Joint Capital Enhancement Agreement (JCE Agreement) intended to enhance the capital position of each FHLB. The intent of the JCE Agreement is to allocate that portion of each FHLB's earnings to a separate retained earnings account at that FHLB. For more information on the JCE Agreement, see **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements.

Although restricted retained earnings under the JCE Agreement are included in determining whether we have attained the retained earnings target under the Bank's Retained Earnings and Dividend Policy discussed above, these restricted retained earnings will not be available to pay dividends. We do not believe that the requirement to contribute 20% of our future net income to a restricted retained earnings account under the JCE Agreement will have an impact on our ability to pay dividends except in the most extreme circumstances. There is a provision in the JCE Agreement that if, at any time, our restricted retained earnings were to fall below the required level, we would only be permitted to pay dividends out of (1) current net income not required to be added to our restricted retained earnings and (2) retained earnings that are not restricted.

FICO Dissolution

The Competitive Equality Banking Act of 1987 was enacted in August 1987, which, among other things, provided for the recapitalization of the Federal Savings and Loan Insurance Corporation through a newly-chartered entity, the Financing Corporation (FICO). The capitalization of FICO was provided by capital distributions from the FHLBs to FICO in exchange for FICO nonvoting capital stock. Capital distributions were made by the FHLBs in 1987, 1988 and 1989 that aggregated to $680 million. Upon passage of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the FHLBs' previous investment in capital stock of FICO was determined to be non-redeemable and the FHLBs charged-off their prior capital distributions to FICO directly against retained earnings.

In connection with the dissolution of FICO in July 2020, FICO determined that excess funds aggregating to $200 million were available for distribution to its stockholders, the FHLBs, and FICO distributed these funds to the FHLBs in June 2020. Specifically, our partial recovery of prior capital distribution was $19 million, which was determined based on our share of the $680 million originally contributed to FICO. We treated the receipt of these funds as a return of our investment in FICO capital stock, and therefore as a partial recovery of the prior capital distributions we made to FICO in 1987, 1988, and 1989. These funds have been credited to unrestricted retained earnings in our **Statements of Capital** on page F-7 and in Other Financing Activities in our **Statements of Cash Flows** on page F-9.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Off Balance Sheet Arrangements

We provide members with letters of credit for a fee. If a beneficiary draws under a letter of credit, our member either reimburses us for the amount drawn or the drawn amount is converted into a collateralized advance to the member. If any advances were to be issued under these letters of credit, they would be made under the same standards and terms of collateral as any other advance issued to that member at that point of time.

We have entered into standby bond purchase agreements with the Illinois and Wisconsin state housing authorities. Upon request of the applicable authority, we enter into an agreement with them to purchase and hold the authority's bonds for a fee until the designated remarketing agent can find a suitable investor.

Refer to **Note 16 - Commitments and Contingencies** to the financial statements for further disclosures related to our commercial commitments, such as letters of credit and standby bond purchase agreements.

Contractual Cash Obligations

We enter into various contractual obligations that require us to make future cash payments. The following table summarizes our contractual cash obligations due by period:

	Contractual Cash Payments Due by Period				
As of December 31, 2020	**Less than 1 year**	**1-3 years**	**3-5 years**	**After 5 years**	**Total [a]**
Consolidated obligation bonds	$ 21,266	$ 13,288	$ 3,508	$ 4,410	$ 42,472
Operating leases	6	9	9	48	72
MPF purchase delivery commitments	1,527	—	—	—	1,527
Mandatorily redeemable capital stock	—	4	5	270	279
Other	20	13	14	22	69
Total contractual cash obligations	$ 22,819	$ 13,314	$ 3,536	$ 4,750	$ 44,419

[a] Total excludes projected contractual interest payments for consolidated obligation bonds of $2.0 billion.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Risk Management

Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Fraud, legal, compliance, financial reporting, model and technology risks are components within the definition of operational risk. We have established programs to identify, assess, measure, monitor, manage, and report operational risks such as comprehensive risk assessments, establishing policies and procedures, loss incident reporting and others while obtaining appropriate insurance coverage to mitigate the likelihood of, and potential losses from, such occurrences.

Governance and Control Activities

The Board of Directors has established Bank-wide policies governing operational risk, which include Enterprise Risk Management Policy, Enterprise Operational Risk Management Policy, Cyber Risk Management Policy, and others. Primary oversight responsibility for operational risk is vested with our management level Operational Risk Oversight Committee. Responsibilities of this committee include, but are not limited to, oversight and review of Bank-wide operational risks such as the management of business continuity, technology (including information security) risks, reviews of operational risk decisions that may include risk acceptances, operational issues or updates, operational aspects of new business activities, analysis and mitigation of any operational loss, vendor management, oversight and direction to our compliance activities, and oversight to internal controls and procedures in compliance with the Sarbanes-Oxley Act of 2002. This Committee monitors the performance of these operational activities by reviewing management reports prepared by the responsible business manager on a periodic basis. Also, the Committee monitors the effectiveness of operational controls through the reporting of critical operational losses, events, risk assessments, operational risk metrics, and a quarterly certification of operational and internal controls over financial reporting.

Our executive officers or their delegates provide periodic reports, as appropriate, to the following Board committees: Risk Management Committee, Operations and Technology Committee, and the Audit Committee.

Business Resiliency

In order to ensure our ability to provide liquidity and service to our members and PFIs, we have business resumption plans designed to restore critical business processes and systems in the event of a variety of business interruptions. We maintain key information systems infrastructure with vendors that have reliable and consistent data recovery capabilities as well as more optimal geographic diversity to provide a more resilient technology infrastructure. We are party to a reciprocal arrangement with the FHLB Dallas to allow members to access their deposits as well as have access to overnight advances to the extent they have collateral already in place. Both the FHLB Dallas, our technology infrastructure and off-site recovery plans are subject to periodic testing.

Credit Risk

In light of the economic and financial disruptions related COVID-19 pandemic, we are closely monitoring our credit risk exposure. However, the extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations will depend on future developments, which are uncertain and cannot be predicted. For a discussion of the credit risks facing the Bank as a result of the COVID-19 pandemic, including as a result of increased forbearances granted by Bank members or PFIs or a decline in the fair value of Bank investments, see **Risk Factors** on page 23 of this Form 10-K.

We define credit risk as the risk to our earnings or capital due to an obligor's failure to meet the terms of any contract with us, or to otherwise perform as agreed. We are exposed to credit risk principally through:

- Member credit products, such as advances, letters of credit, and other extensions of credit to borrowers;
- MPF Loans and related exposures;
- investment debt securities;
- securities purchased under agreements to resell;
- unsecured short-term investments;
- Community First Fund loans; and
- derivatives.

Managing Our Credit Risk Exposure Related to Member Credit Products

Our member credit products credit risk exposure includes our secured credit extensions, such as advances, letters of credit, and related extensions of credit to members. See **Note 6 - Advances** and **Note 16 - Commitments and Contingencies** to the financial statements for further details on member credit products. We lend to our members in accordance with federal statutes

and FHFA regulations. We manage our credit exposure to our member credit products using a risk-based integrated approach as discussed below. We utilize conservative collateral/lending policies to limit risk of loss while balancing members' needs for a reliable source of funding.

Establishing Credit Limits - Under our credit policy, a member's initial credit limit is set up to 35% of their total assets, subject to modifications up or down based primarily on the following factors:

- The collateral value of eligible collateral a member has pledged. Collateral value represents the borrowing capacity assigned to the types of collateral we accept for member credit products. Collateral value does not imply fair value.
- A member's risk rating, which is determined by assessing their creditworthiness and financial condition utilizing financial information available to us, including the quarterly financial statement reports members file with their regulators. Additionally, we conduct an ongoing review of each borrower's financial condition.
- For increases to the initial credit limit, approval by the Credit and Collateral Committee, our Chief Risk Officer, or our CEO is required.

Member Credit Outstanding - We track total credit risk with our members. The total credit risk concentrated with members with 10% or more of our total member credit outstanding is as follows:

As of December 31, 2020	Total Credit Outstanding	% of Total
One Mortgage Partners Corp.	[a] $ 17,313	27.6%

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

Member Credit Risk Ratings - Our credit risk rating system focuses primarily on our member's overall financial health and takes into account the member's asset quality, earnings, and capital position. We utilize our credit risk rating system to assign each member a credit risk rating from one (lowest credit risk) to five (highest credit risk). Our credit risk rating represents our assessment of the risk of member insolvency rather than the risk of credit loss on the member's credit outstanding with us. We utilize the credit risk rating of a member to manage our credit risk through collateral controls, and we have never suffered a credit loss on a member credit product. Credit risk mitigation actions may be applied to members perceived to pose increased risk, and are commonly applied to members with credit risk ratings of four and five. Specifically, these members may be:

- required to maintain higher amounts of collateral;
- required to deliver loan collateral to us or a third party custodian on our behalf;
- restricted from obtaining certain member credit products; and
- faced with more stringent collateral reporting requirements.

The following table presents the number of members and related credit outstanding to them by credit risk rating. Credit outstanding consists primarily of outstanding advances and letters of credit. PFI CE Amount obligations, member derivative exposures, and other obligations make up the rest. Of the total credit outstanding, $45.8 billion were advances (par value) and $16.4 billion were letters of credit at December 31, 2020, compared to $50.1 billion and $23.9 billion at December 31, 2019.

	December 31, 2020			December 31, 2019		
Rating	Borrowing Members	Credit Outstanding	Collateral Loan Value	Borrowing Members	Credit Outstanding	Collateral Loan Value
1-3	556	$ 62,021	$ 149,125	492	$ 73,421	$ 134,965
4	9	573	790	2	871	881
5	9	28	61	9	60	88
Total	574	$ 62,622	$ 149,976	503	$ 74,352	$ 135,934

Members assigned a 4 rating in the above table were required to submit specific collateral listings and the members assigned a 5 rating were required to deliver collateral to us or to a third party custodian on our behalf.

In response to the COVID-19 pandemic, we began accepting Paycheck Protection Program (PPP) loans as eligible collateral. In addition, as many of our members assist borrowers affected by the COVID-19 pandemic, we are accepting as eligible collateral

loans temporarily granted forbearance due to the pandemic as long as the loans continue to meet all other eligibility requirements as defined in our collateral guidelines. To the extent that these loans become delinquent or do not meet the Bank's eligibility guidelines in the future, the value of collateral pledged to secure member credit may be negatively impacted. For a discussion of our credit risks, and risks relating to the COVID-19 pandemic, see **Risk Factors** on page 23.

Nature and Amount of Collateral Pledged - Collateral arrangements may vary by type of member (e.g., depository versus non-depository institutions), lien structure, member credit quality, collateral availability, collateral type, results of periodic on-site reviews of collateral, and overall member credit exposure. The FHLB Act requires us to obtain sufficient collateral to fully secure member credit products. Eligible collateral includes whole first mortgages on improved residential property, or non-agency securities representing a whole interest in such mortgages; securities issued, insured, or guaranteed by the U.S. government or any of its agencies (includes MBS issued or guaranteed by Fannie Mae, Freddie Mac, or Ginnie Mae and FHLB consolidated obligations); cash or deposits; and other real estate related collateral (includes home equity loans and lines of credit, farmland, commercial real estate, and construction, land development and other loans) that has a readily ascertainable value, can be reliably discounted to account for liquidation risk and can be liquidated in due course and that we can perfect a security interest in such collateral. We also accept pledges of secured business or agribusiness loans from community financial institutions (CFIs), which are permitted under the FHLB Act.

In certain circumstances, such as when a member's membership is terminated due to a merger and the acquiring entity is a member of another FHLB; the other FHLB may agree to manage the former member's collateral covering advances and any other amounts still outstanding to us and will subordinate to us either certain collateral it receives from the member or certain categories of collateral. Likewise, if one of our members were to acquire the member of another FHLB, we may agree to manage the collateral for the other FHLB and subordinate our security interest in a certain category of collateral.

Our Advances, Collateral Pledge and Security Agreement requires that a member provide collateral value equal to its credit outstanding (unless we specifically require more for a particular member). The value assigned to securities and loan collateral is calculated as shown below. It should be noted that the applicable percentage margin utilized in the calculation for securities or loans vary based on the type of collateral being pledged, as well as factors (that vary whether the collateral is a security or loan) including model risk, broker fees, market volatility and liquidity, the type of collateral reporting, the member's risk rating, and whether the member is a depository or non-depository.

- For securities, we multiply the applicable margin by the market value of each security; and
- For loans, we multiply the applicable margin by the unpaid principal balance of pledged loans, along with any applicable percentage applied to adjust for exceptions found during a member's collateral review.
    - In general members pledging loan collateral via blanket reporting will receive the margins published, as a percent of unpaid principal balance.
    - Members with listed and/or delivered loan collateral will generally receive the margins published, which will be applied as a percent to the lower of par or market value of the unpaid principal balance of the reported loan collateral.

Controls over Pledged Collateral - We require delivery of all securities collateral and may also require delivery of loan collateral under certain conditions (for example, when a member's credit condition deteriorates).

The FHLB Act requires that each advance to a member be fully secured. We are required to obtain and maintain a security interest in collateral securing advances. The FHLB Act provides that any security interest granted to us by our members, or an affiliate of such member, is entitled to priority over the claims and rights of any party, including any receiver, conservator, trustee, or similar party having rights of a lien creditor other than claims and rights that would be entitled to priority under otherwise applicable law and are held by actual bona fide purchasers for value or by actual secured parties that are secured by actual perfected security interests. We perfect the security interests granted to us by members and affiliates by taking possession of securities collateral and by filing UCC-1 financing statements on all other collateral.

For depository institutions, we generally require members to pledge collateral under a blanket lien under which our security interest in collateral is automatically released when the member has sold or otherwise transferred its ownership interest in the collateral (unless otherwise notified by us) and such collateral is not required to secure a member's outstanding credit obligations and we have not required the member to list or deliver such collateral. Under the Advances, Collateral Pledge and Security Agreement with our members, a member must maintain collateral with a collateral value to fully cover its credit outstanding. If the collateral does not have collateral value sufficient to cover the credit outstanding, we require a member to pledge other assets as collateral to cover the shortage, this includes the pledging of types of collateral that are outside of our eligibility criteria.

As a result, we may require listing or delivery of the additional collateral from the member at any time while there is credit outstanding. Additionally, we have a lien on their capital stock in us.

The method by which a member reports collateral is dependent upon the collateral status to which it is assigned, as well as the type of collateral being pledged. In order for a member to have borrowing capacity with us, the member must report its eligible collateral using one of the following methods. Under blanket reporting, a member that has granted us a blanket lien on certain categories of collateral may report the collateral types on a qualified collateral report. For members that list collateral, either by choice or as directed by us, the member must submit a listing of its collateral which includes loan-level detail of the collateral. Securities pledged to us must be delivered to us or an approved third party custodian pursuant to a collateral control agreement. Loan collateral pledged to us may be required to be delivered to an approved third party custodian pursuant to a collateral control agreement. Regardless of the manner in which the collateral is pledged, all members must report their collateral to us at least quarterly.

We also conduct periodic on-site loan collateral reviews to confirm the collateral meets our eligibility requirements. On-site collateral verifications are performed on a schedule that varies based upon, including, but not limited to, our assessment of the credit risk of the member, the size of the member's credit exposure, the types of collateral pledged, and the amount of collateral coverage.

We have not recorded any allowance for credit losses for our on balance sheet member credit products nor any liabilities for our off balance sheet member credit products in the periods presented based on the following factors:

- Our credit outstanding is sufficiently well collateralized as a result of the collateral and credit risk mitigation efforts described above;
- Our credit analyses of our members;
- The repayment history on member credit products; and
- No member credit products that were past due, on nonaccrual status, involved in a troubled debt restructuring, or otherwise considered impaired.

MPF Loans and Related Exposures

For a description of the MPF Program see **Mortgage Partnership Finance Program** on page 8.

Credit Risk Exposure - Our credit risk exposure on conventional MPF Loans held in portfolio is the potential for financial loss due to borrower default and depreciation in the value of the real estate collateral securing the MPF Loan, offset by our ability to recover losses from PMI, Recoverable CE Fees, and the CE Amount which may include SMI. The PFI is required to pledge collateral to secure its CE Amount. The unpaid principal balances of our conventional MPF Loans held in portfolio exposed to credit losses was $9.0 billion at December 31, 2020, and $8.9 billion at December 31, 2019. Our 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 held in portfolio balance, has not been considered.

Under our MPF Program for non-government insured or guaranteed loans held in our portfolio, the loan payment forbearance we offer to borrowers impacted by the COVID-19 pandemic allows a borrower to defer loan payments for up to 360 days without requiring documentation from the borrower to support the relief requested, which is consistent with the CARES Act. During forbearance, late fees are not assessed. At the end of forbearance, borrowers are presented with options for bringing their mortgage loan to a current status. For government insured or guaranteed loans held in our portfolio, we follow the insuring or guaranteeing agency's forbearance plan requirements. For MPF Xtra loans that are serviced under the MPF Program, we follow Fannie Mae's forbearance plan requirements.

The COVID-19 pandemic and related economic disruptions may impact borrowers' ability to repay their mortgage loans, which may lead to elevated rates of delinquencies or defaults and adversely impact the credit performance of MPF Loans held in portfolio. The extent to which the COVID-19 pandemic will affect or will continue to affect our business, financial condition, and results of operations will depend on future developments, which are highly uncertain and difficult to predict. For a discussion of our credit risks, and risks relating to the COVID-19 pandemic, see **Risk Factors** on page 23.

Our MPF Loans held in portfolio include conventional mortgage loans that may be viewed as having greater credit risk because the borrowers have weaker credit histories. The current MPF Program eligibility criteria for conforming conventional MPF Loans excludes loans to borrowers with a FICO score less than 620. Historically, we accepted MPF Loans from borrowers with FICO scores below 620 provided they met the underwriting standards set forth in the MPF Guides, which require compliance with applicable laws and regulations, including the Interagency Guidance on Nontraditional Mortgage Product Risks (issued October 4, 2006) and the Statement on Subprime Mortgage Lending (issued on July 10, 2007) issued by the Office of the Comptroller of the Currency, Office of the Thrift Supervision, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and the National Credit Union Administration. MPF Loans to borrowers with no FICO scores are also eligible for

delivery under the MPF Program provided that acceptable alternate documentation of credit history is provided. We do not classify these MPF Loans internally as "subprime" because they are not higher-priced mortgage loans. Mortgages that meet the MPF Program's definition of higher-priced mortgage loans are not eligible for delivery under the MPF Program. MPF Loans with borrowers having no FICO scores or with FICO scores less than 660 represent a relatively small portion of our total conventional MPF Loan portfolio.

Under the MPF Government MBS product, we must advance the scheduled principal and interest payments to the securities holders of Ginnie Mae MBS that we issued if the servicing PFI defaults on its payment obligations to advance the scheduled remittances. Once MPF Government MBS loans are ninety days delinquent, we have the option to repurchase the mortgage loan out of the security and work with a servicer to mitigate the credit loss.

Setting Credit Enhancement Levels - For conventional MPF Loans held in portfolio, credit losses in a Master Commitment are first absorbed by the Bank's First Loss Account (FLA) but, if applicable to the MPF product, we will withhold a PFI's scheduled performance credit enhancement fee in order to reimburse ourselves for any losses allocated to the FLA. We refer to these reimbursable credit enhancement fees as Recoverable CE Fees. If the FLA is exhausted, the credit losses are then absorbed by the PFI's CE Amount that is calculated by utilizing third party credit models. For further details on the FLA and PFI's CE Amount, refer to **Loss Structure for Credit Risk Sharing Products** on page 9 and **Conventional MPF Loans Held in Portfolio** on page F-32 to the financial statements.

The PFI's credit enhancement obligation, inclusive of the CE Amount and Recoverable CE Fees, as applicable, is determined by the Bank, based on documented analysis, that the Bank has a high degree of confidence that it will not bear material losses beyond the losses absorbed by the Bank's FLA, even under reasonably likely adverse changes to expected economic conditions. Loans are assessed by third party credit models at acquisition and a credit enhancement is calculated based on credit attributes of the loans in each Master Commitment. Credit losses on a loan may only be absorbed by the PFI's credit enhancement obligation,inclusive of the CE Amount and Recoverable CE Fees, as applicable, in the Master Commitment related to the loan.

The CE Amounts and the FLA for certain conventional MPF Products held in our portfolio may be periodically reset lower for each Master Commitment after a required period of seasoning because the amount of credit enhancement necessary to maintain our risk of credit losses within our risk tolerance is usually reduced over time.

For the MPF Plus product, the PFI is required to provide an SMI policy covering the MPF Loans in the Master Commitment and having a deductible initially equal to the FLA. As of December 31, 2020, and 2019, the outstanding balances of MPF Loans under the MPF Plus product with SMI coverage were $114 million and $148 million and the amounts of SMI coverage provided against losses were $4 million and $9 million. The reduction in coverage was due to the resetting of SMI policies as provided in the MPF Plus product structure. Credit losses associated with Master Commitments where the SMI coverage has been discontinued are incorporated into the allowance for credit losses calculation. Such credit losses were immaterial.

The following table shows the status of our credit enhancement structure on conventional MPF Loans held in portfolio. Unpaid principal balances in this table include REO, as losses in REO impact, and are impacted by, the credit enhancement structure of a Master Commitment. As defined, the CE Amount includes SMI on the MPF Plus product. Government Loans are excluded from the table as they are not directly credit enhanced by the PFI.

	As of December 31, 2020			
Conventional MPF Product Type	**Unpaid Principal Balance**	**90+ Days Delinquent**	**FLA [a]**	**PFI's CE Amount [b]**
100	**$ 101**	**2.67%**	**5.97%**	**3.28%**
125	**2,569**	**3.79%**	**2.13%**	**2.48%**
Plus	**622**	**4.81%**	**12.13%**	**0.76%**
35	**2,221**	**0.58%**	**0.53%**	**2.20%**
Original	**3,472**	**0.52%**	**0.32%**	**4.14%**

[a] For each product above, except MPF Original, a portion of losses experienced at the FLA level may be recovered through the withholding of performance-based CE Fees from PFIs.

[b] Credit losses on a loan may only be absorbed by the CE Amount in the Master Commitment related to the loan. For further detail refer to **Conventional MPF Loans Held in Portfolio** on page F-32 to the financial statements.

Concentration Risks - In conjunction with assessing credit risks on the MPF Loan portfolio, we also assess concentration risks that could negatively impact this portfolio.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Geographic Concentration - While we have MPF Loans throughout the United States, our largest concentrations of 10% or more of conventional MPF Loans held in portfolio were secured by properties located in the states shown in the following table. Amounts shown are based on outstanding par value. An overall decline in the economy, residential real estate market, or the occurrence of a natural disaster could adversely affect the value of the mortgaged properties in these states and increase the risk of delinquency, foreclosure, bankruptcy or loss on MPF Loans, which could negatively affect our business, results of operations, and financial condition.

As of December 31, 2020	Par Value	%
Wisconsin	$ 3,812	39 %
Illinois	2,873	29 %
Total unpaid principal balance of conventional MPF Loans	$ 9,856	100 %

Seller Concentration - During 2020, the top five PFIs, in the aggregate, accounted for 21% of our MPF Loans purchased and held in portfolio on our balance sheet. To the extent we lose our business with these PFIs and cannot attract comparable replacements, our business may be adversely affected.

For further discussion of how concentration risks may affect us, see **Risk Factors** starting on page 23.

Mortgage Repurchase Risk - We are exposed to mortgage repurchase risk in connection with our sale of MPF Loans to Fannie Mae under the MPF Xtra product, to third party investors under the MPF Direct Product, and to Ginnie Mae for MPF Loans securitized in Ginnie Mae MBS if a loan eligibility requirement or other representation or warranty is breached. We may require the PFI from which we purchased the ineligible MPF Loan to repurchase that loan from us or indemnify us for related losses or request indemnification from the PFI's MPF Bank.

Our mortgage repurchase liability is an estimate of our losses associated with all mortgage loans previously sold in connection with the MPF Xtra, MPF Direct, and MPF Government MBS products for which a breach of representation or warranty has occurred. We consider factors based predominantly on our historical repurchase experience and only include mortgage loans for which we deem it probable that we will be required to either repurchase the mortgage loan or indemnify the applicable third party for losses. This assessment is primarily made during our quality control review process. Our estimate incorporates our experiences with third party repurchase demands, PFIs' historical ability to cure repurchase demands, and an assumed loss severity given default.

The methodology to estimate the associated mortgage repurchase liability for MPF Government MBS loans also considers potential repurchases based on delinquency activity or lack of final loan certifications within issued pools. We are expected to maintain delinquency rates on outstanding issuances below key thresholds and fulfill operational requirements published by Ginnie Mae.

We accrue a mortgage repurchase liability with an offsetting charge to noninterest expense when it is probable and reasonably estimable that we will be obligated to repurchase a loan or indemnify an investor.

Based on the above factors:

We recognized a mortgage repurchase liability of $1 million as of December 31, 2020, and $0.3 million as of December 31, 2019, on the MPF Xtra loans. We also recognized an offsetting receivable due from our PFIs, since we deem it probable that we will recover any losses from third parties (e.g., PFIs and other MPF Banks). We believe the estimate of reasonably possible losses is zero as of the end of this reporting period.

We have repurchased $20 million of unpaid principal balances related to mortgage loans sold as part of our off balance sheet MPF Loan products for the year ending December 31, 2020, compared to $8 million for 2019, and $9 million for 2018. These repurchases represent repurchase requests that have been resolved during the reporting period. Due to recoveries from PFIs, we incurred no material losses on these loans.

We have $27 million as of December 31, 2020, of unpaid principal with respect to MPF Xtra loans that represent unresolved claims with Fannie Mae, in which a repurchase demand may occur compared to $18 million at December 31, 2019. Repurchase requests received as of a particular date may not reflect total repurchase liability for loans outstanding as of that date. In certain circumstances, third party investors may not make a repurchase or indemnification request until a loan becomes past due or defaults.

Additionally, PFIs are required to repurchase ineligible MPF Loans held in our portfolio unless we either require the PFI to

indemnify us or decide to continue to hold such loans in our portfolio. The PFI repurchase requirement is a factor in determining our allowance for credit losses. If a PFI is unable to repurchase ineligible MPF Loans or indemnify us, we would incur a loss to the extent a credit loss is not recovered from collateral provided by the PFI or, alternatively, from the FDIC. In this regard, we have not recorded an allowance for credit losses related to MPF Loans held in our portfolio, as we do not expect to incur any losses after factoring in our recovery claims from PFIs.

We record allowances for credit losses for MPF Loans held in portfolio based on available information of past events and the current economic conditions existing as of the date of our statements of condition and reasonable and supportable forecasts that affect the collectability of the financial instrument's reported amount. Such information includes, but is not limited to, delinquency rates, loss severities, and prepayment speeds consistent with the percentages of delinquent, nonaccrual, and impaired MPF Loans to total conventional MPF Loans. Refer to **Note 2 - Summary of Significant Accounting Policies** to the financial statements for details on our nonaccrual and charge-off policies. Additionally, refer to **Note 8 - Allowance for Credit Losses** to the financial statements for further details on our allowance for credit losses.

Five year trend in our MPF Loans held in portfolio

The following table shows the five year trend in our MPF Loans held in portfolio. Troubled debt restructurings and all activity in our allowance for credit losses were immaterial for all periods presented.

As of December 31,	2020	2019	2018	2017	2016
MPF Loans past due 90 days or more and still accruing interest [a]	$ 65	$ 20	$ 24	$ 29	$ 31
Nonaccrual MPF Loans	120	29	33	49	74

[a] Includes loans which are well-secured and in the process of collection. MPF Loans that are on nonperforming status, and are collateral-dependent, are excluded. Collateral-dependent is when repayment is expected to be provided solely by the sale of the underlying property. Government Loans are included because repayment is insured or guaranteed by the government.

Key Credit Quality Indicators

The following table presents our key credit quality indicators (at origination) of FICO scores and Loan To Value (LTV) ratios for our conventional MPF Loans.

As of December 31, 2020	Unpaid Principal Balance	Current	30 Days Delinquent	60 Days Delinquent	90 Days + Delinquent	% of Total
FICO Score < 620	$ 42	$ 35	$ 2	$ 1	$ 4	
FICO Score 620-659	470	428	14	7	21	
FICO Score >=660	8,437	8,232	53	18	134	
No FICO Score	30	29	—	—	1	
Total	8,979	8,724	69	26	160	
Weighted average FICO score	745					
LTV Ratio <=60%	$ 1,673					19 %
LTV Ratio > 60% to 70%	1,551					17 %
LTV Ratio > 70% to 80%	4,340					48 %
LTV Ratio > 80% to 90%	797					9 %
LTV Ratio > 90%	618					7 %
Total LTV	8,979					100 %
Weighted average LTV %	72 %					

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Investment Debt Securities

We hold a variety of investment debt securities we believe are low risk and mostly government backed or insured, such as GSE debt and FFELP ABS. We also held private label MBS, which we sold during October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies**.

The carrying amounts of our investments are presented in the following table by the long term NRSRO credit rating of the counterparty. The rating used was the lowest rating among the three largest NRSROs.

	AAA	AA	A	BBB	Below Investment Grade	Unrated	Carrying Amount
December 31, 2020							
Investment debt securities-							
U.S. Government & other governmental related	$ —	$ 7,328	$ —	$ —	$ —	$ —	$ 7,328
State or local housing agency	—	15	—	—	—	—	15
FFELP ABS	21	3,013	—	—	—	—	3,034
MBS:							
GSE residential	162	13,632	—	—	—	—	13,794
Government guaranteed residential	—	364	—	—	—	—	364
Other	—	13	—	—	1	—	14
Total investment debt securities	183	24,365	—	—	1	—	24,549
Interest bearing deposits	—	—	855	—	—	—	855
Federal Funds sold	—	500	3,625	—	—	—	4,125
Securities purchased under agreements to resell	—	5,995	3,375	—	—	750	10,120
Total carrying amount of investments	$ 183	$ 30,860	$ 7,855	$ —	$ 1	$ 750	$ 39,649
December 31, 2019							
Investment debt securities-							
U.S. Government & other governmental related	$ —	$ 6,546	$ —	$ —	$ —	$ —	$ 6,546
State or local housing agency	—	19	—	—	—	—	19
FFELP ABS	26	3,326	—	—	—	—	3,352
MBS:							
GSE residential	149	12,172	—	—	—	—	12,321
Government guaranteed residential	—	530	—	—	—	—	530
Private label MBS residential	—	—	4	4	138	164	310
Other	—	18	—	—	—	—	18
Total investment debt securities	175	22,611	4	4	138	164	23,096
Interest bearing deposits	—	—	1,680	—	—	—	1,680
Federal Funds sold	—	2,206	5,150	—	—	—	7,356
Securities purchased under agreements to resell	—	5,000	1,750	—	—	—	6,750
Total carrying amount of investments	$ 175	$ 29,817	$ 8,584	$ 4	$ 138	$ 164	$ 38,882

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Investment Debt Securities Issuer Concentration

The following table summarizes our investment debt securities by issuer with a carrying amount exceeding 10% of our stockholders' equity:

December 31, 2020	Carrying Amount	Fair Market Value
Federal Home Loan Mortgage Corporation	$ 674	$ 682
Federal National Mortgage Association	13,120	13,142
SLCLT 2009-1 Student Loan ABS	632	632
SLM Student Loan Mortgage SLMA 2009-1 A	803	803
SLM Student Loan Mortgage SLMA 2009-2 A	684	684
Small Business Administration	2,620	2,645
United States Department of the Treasury	4,613	4,613
Total over 10%	23,146	23,201
All others	1,403	1,406
Total investment debt securities	$ 24,549	$ 24,607

Aging and Carrying Amount

A table presenting the aging of our investments for the current year, as well as the carrying amounts for the previous two years can be found in **Note 5 - Investment Debt Securities** to the financial statements. It also discloses the yields by aging categories for the current year.

Securities Purchased Under Agreements to Resell

We invest in securities purchased under agreements to resell in order to ensure the availability of funds to meet members' liquidity and credit needs. Securities purchased under agreements to resell are secured by collateral of marketable securities held by a third party custodian. If the fair value of the accepted collateral decreases below the fair value amount required as collateral, our counterparty is required to provide an equivalent amount of additional securities as collateral to make up the shortfall. If the credit markets experience disruptions, it may increase the likelihood that one of our counterparties could experience liquidity or financial constraints that may cause them to become insolvent or otherwise default on their obligations to us. If the collateral's fair value amount has decreased below the resale agreement's carrying amount, we may suffer a credit loss.

The credit ratings of securities purchased under agreement to resell are disclosed along with investment debt securities and unsecured short-term investments, in the **Investment Debt Securities** table on page 76.

Unsecured Short Term Investments

We invest in unsecured short-term investments in order to ensure the availability of funds to meet members' credit and liquidity needs. We have credit risk exposure from our unsecured short-term investment portfolio, which may consist of commercial paper, certificates of deposit, and Federal Funds sold. We have established the following policies and procedures to limit and monitor our unsecured credit risk exposure.

- Eligible counterparties for short-term investments are:
  - other FHLBs;
  - other U.S. GSEs; and
  - FDIC-insured financial institutions, including U.S. subsidiaries of foreign commercial banks, or U.S. branches of foreign commercial banks whose most recently published financial statements exhibit at least $250 million of Tier 1 (or total) capital. US branches and agency offices of foreign non-member counterparties that have their ultimate parent domiciled in a country whose sovereign rating is below “Aa3” from Moody's or AA- from Standard & Poor's, are reported to the Bank’s Credit and Collateral Committee.
- Our unsecured credit exposures to U.S. branches or 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 their contractual repayment obligations. Our 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.

- Unsecured credit investment maturities are subject to maximum amounts and tenors as established by the Bank.
- We actively monitor our credit risk exposure and the credit quality of each counterparty, including an assessment of each counterparty's financial performance, capital adequacy, sovereign support (if applicable) and the current market perceptions of the counterparty. General macro-economic, political and market conditions may also be considered when deciding on unsecured exposure. As a result of this monitoring activity, we may limit or terminate existing unsecured credit exposure limits.

The following table presents the credit ratings of our unsecured investment counterparties, organized by the domicile of the counterparty or, where the counterparty is a U.S. branch or agency office of a foreign commercial bank, by the domicile of the counterparty's parent. This table does not reflect the foreign sovereign government's credit rating. The rating used was the lowest rating among the three largest NRSROs. The unsecured investment credit exposure presented in the table may not reflect the average or maximum exposure during the period as the table reflects only the balances at period end.

As of December 31, 2020	AA	A rated	Total
Domestic U.S.			
Interest bearing deposits	$ —	$ 855	$ 855
Foreign commercial banks - Federal Funds sold:			
Australia	—	700	700
Canada	—	1,875	1,875
Finland	500	—	500
France	—	350	350
Netherlands	—	700	700
Total unsecured credit exposure	$ 500	$ 4,480	$ 4,980

All $4.980 billion of the unsecured credit exposure in the above table represent overnight investments and $444 million in the above table were with members and their affiliates. Any amounts related to members over a 10% concentration are included in the amounts in the **Member Credit Outstanding** table on page 70.

Managing Our Credit Risk Exposure Related to Derivative Agreements

See **Note 9 - Derivatives and Hedging Activities** to the financial statements for a discussion of how we manage our credit risk exposure related to derivative agreements. We have credit exposure on net asset positions where we have not received adequate collateral from our counterparties. We also have credit exposure on net liability positions where we have pledged collateral in excess of our liability to a counterparty.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table presents our derivative positions where we have such credit exposures. The rating used was the lowest rating among the three largest NRSROs. Non-cash collateral pledged consists of initial margin we posted through our FCMs, on behalf of the DCOs for cleared derivatives and is included in our derivative positions with credit exposure.

	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged	Noncash Collateral Pledged	Net Credit Exposure to Counterparties [a]
As of December 31, 2020				
Nonmember counterparties -				
Undercollateralized asset positions -				
Bilateral derivatives -				
A	**$ 2**	**$ (2)**	**$ —**	**$ —**
Overcollateralized liability positions -				
Bilateral derivatives -				
A	**(125)**	**6**	**120**	**1**
BBB	**(147)**	**—**	**147**	**—**
Cleared derivatives	**(8)**	**—**	**623**	**615**
Nonmember counterparties	**(278)**	**4**	**890**	**616**
Member counterparties	**5**	**—**	**—**	**5**
Total	**$ (273)**	**$ 4**	**$ 890**	**$ 621**
As of December 31, 2019				
Nonmember counterparties -				
Undercollateralized asset positions -				
Bilateral derivatives -				
AA rated	$ 8	$ (8)	$ —	$ —
A	6	(6)	—	—
Bilateral derivatives -				
A	(82)	83	—	1
BBB	(60)	61	—	1
Cleared derivatives	(8)	—	432	424
Nonmember counterparties	(136)	130	432	426
Member counterparties	2	—	—	2
Total	$ (134)	$ 130	$ 432	$ 428

[a] Less than $1 million is shown as zero.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

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

Market Risk Profile

Our financial assets and financial liabilities are subject to market risk. Specifically, the fair value of our financial assets may decline while the fair value of our financial liabilities may increase due to changes in market risk factors. Our exposure to interest rate risk, however, represents our most critical market risk factor since our earnings primarily are driven by net interest income.

Interest Rate Risk Management:

Our interest rate risk management objective is to manage our exposure to interest rate risk within appropriate limits rather than eliminate our entire exposure to interest rate risk. In this regard, we have established policies that include guidelines on the amount of exposure to interest rate changes we are willing to accept. Our Asset/Liability Management Committee provides oversight of these risk management practices and policies. This includes routine reporting to senior Bank management and the Board of Directors, as well as maintaining the Income and Market Value Risk Policy, which defines our interest rate risk limits. Our strategy to mitigate losses due to interest rate risk is outlined below.

Monitoring and Analyzing Interest Rate Risk:

- We monitor the risk to our net interest income, and average maturity of our interest bearing assets and liabilities.
- We measure and manage market exposure through four measurements: duration, convexity, curve, and volatility.
  - Duration measures our exposure to parallel interest rate shifts where changes in interest rates occur at similar rates across the yield curve. Duration of equity is a measure that expresses the interest rate sensitivity of the present value of the Bank's cash flow in terms of duration years of portfolio equity. We report the results of our duration of equity calculations to the FHFA each quarter. We measure duration of equity in a base case using the actual yield curve as of a specified date and then shock it with an instantaneous shift of the entire curve. Effective duration measures price sensitivity taking into account that the expected cash flows will change as interest rate change due to any prepayment options embedded within a financial instrument.
  - Convexity measures how fast duration changes as a function of interest rate changes. Convexity is largely driven by mortgage cash flows that vary significantly as borrowers respond to rate changes by either prepaying their mortgages or slowing such prepayments.
  - Curve quantifies our exposure to non-parallel shifts in the yield curve.
  - Volatility describes the degree to which the value of options, explicit or embedded, fluctuates. MPF Loans held in portfolio and MBS include options held by the mortgage borrowers to prepay their loans. As a result, we have effectively sold options by owning MPF Loans held in portfolio and MBS. Some consolidated obligations issued by us have effective purchased options that allow us to call the bonds prior to the contractual maturity date.
- We analyze the risk of our mortgage assets on a regular basis and consider the interest rate environment under various interest rate scenarios. We also perform analyses of the duration and convexity of the portfolio.

Mortgage-Related Assets

MPF Loans Held in Portfolio and Residential MBS:

The predominant source of interest rate risk in our market risk profile is attributable to mortgage-related assets. Our mortgage-related assets include, but are not limited to, MPF Loans held in portfolio and MBS. Interest rate risk results from prepayment options embedded in mortgage-related assets. Specifically, changes in interest rates may result in extensions or contractions in the expected maturities of our mortgage-related assets. Interest rate swaps, swaptions, and/or futures contracts may be used to hedge the duration, convexity, and prepayment risk on MPF Loans held in portfolio. We issue both callable and noncallable debt to achieve cash flow patterns and liability durations similar to those expected on MPF Loans held in portfolio.

Economic Hedges:

An economic hedge is defined as a derivative that does not qualify (or was not designated) for hedge accounting, but is an acceptable hedging strategy for risk management purposes. These economic hedging strategies also comply with FHFA regulations that prohibit speculative hedge transactions. An economic hedge may introduce the potential for earnings volatility

caused by the changes in fair value on the derivatives that are recorded in income but not offset by recognizing corresponding changes in the fair value of the economically hedged assets, liabilities, or firm commitments.

We utilize economic hedges to manage our duration, convexity, curve, and volatility. We hedge the duration and convexity of MPF Loans held in portfolio by using economic hedges or through the use of callable and noncallable debt. Convexity risks arise principally from the prepayment option embedded in our MPF Loans held in portfolio and MBS. As interest rates become more volatile, changes in our duration and convexity profile become more volatile. As a result, our level of economic hedging activity, as discussed below, may increase resulting in an increase in hedging costs.

Our primary risk mitigation tools may include funding instruments, swaps, swaptions, futures, options on futures and mortgages, caps, floors, callable debt and/or selling forward Fannie or Ginnie Mae TBA contracts. We generally do not manage exposure to mortgage option-adjusted spreads. Based on our risk profile, funding is primarily used to address duration, convexity, curve, volatility and cash flow mismatch risks at either a portfolio or balance sheet level under different rate scenarios.

Economic hedges may be executed to reduce exposure or the risk associated with a single transaction or group of transactions. Our economic hedges are evaluated daily and adjusted as deemed necessary.

MPF Government MBS Product:

Each delivery commitment is hedged during the delivery commitment period and during the period while the loan held for sale is on the Bank's balance sheet by selling forward Ginnie Mae TBA contracts. Both loans held for sale and TBA contracts are carried at fair value on the Bank's balance sheet. These TBA contracts may be executed to reduce the market risk exposure associated with buying or holding an MPF Government MBS loan until it is securitized. The hedges are evaluated daily and adjusted as deemed necessary.

MPF Xtra:

We enter into offsetting delivery commitments under the MPF Xtra, where we agree to buy mortgage loans from PFIs and simultaneously re-sell them to third party investors. Accordingly, we are not exposed to market risk with respect to these delivery commitments.

Advances

The optionality embedded in certain advances may create interest rate risk. When a member prepays an advance, we could suffer lower future income if the principal portion of the prepaid advance were invested in lower-yielding assets that continue to be funded by higher-cost debt. To protect against this risk, we generally charge a prepayment fee that makes us financially indifferent to a member's decision to prepay an advance or on some products, we structure the advance to address this risk. When we offer advances (other than short-term advances) that a member may prepay or expand (increase the par amount at a later date) without a fee, we may finance such advances with callable or noncallable debt or enter into a derivative to achieve hedge accounting treatment.

Fair Value Hedges

With issuances of certain putable advances, we purchase from the member an embedded option that enables us to extinguish the advance. We may hedge a putable advance by entering into a cancelable interest rate swap where we pay fixed interest payments and receive floating rate interest payments based off of LIBOR, OIS or SOFR. (For a discussion of the impact of the transition from LIBOR, see **LIBOR Transition** on page 56. This type of hedge is accounted for as a fair value hedge. We assess hedge effectiveness primarily under the qualitative hedge effectiveness method. However, in certain cases where all conditions are met, hedge effectiveness is assessed using the shortcut method. Currently, we principally apply shortcut accounting to certain nonputable and putable fixed-rate advances. In the case of certain putable advances that have features not meeting shortcut requirements, the transactions are primarily hedged under a highly effective hedge relationship. In those cases, the swap counterparty can cancel the derivative financial instrument on the same date that we can put the advance back to the member.

Economic Hedges

Interest rate swaps, swaptions, and/or futures contracts may be used to hedge the duration and convexity of the advances portfolio; as well as the prepayment risk on advances and the expander feature risk, which allows a member one or multiple opportunities to increase the principal amount of the advance. We issue both callable and noncallable debt intended to achieve cash flow patterns and liability durations similar to those expected on advances. We may also enter cancelable swaps in an effort to minimize the prepayment risk embedded in the advances.

Non-Residential MBS Investment Debt Securities

Our major security types, excluding Residential MBS, are based on the nature and risks of the security. These securities include, but are not limited to, the following:

- U.S. Government & other government related may consist of the sovereign debt of the United States; debt issued by government sponsored enterprises (GSE); and non-mortgage-backed securities of the Small Business Administration and Tennessee Valley Authority.
- Federal Family Education Loan Program - asset backed securities (FFELP ABS).
- State or local housing agency obligations.
- Multi-Family MBS guaranteed by GSE.

We endeavor to manage the interest rate and prepayment risk associated with these non-MBS securities through a combination of debt issuance and derivatives.

Fair Value Hedges

We use interest rate swaps to hedge certain AFS securities to shorten our duration profile in an increasing interest rate environment. Our hedge strategy focuses on hedging the benchmark interest rate of LIBOR, SOFR, or OIS by effectively converting fixed-rate securities into floating rate assets to reduce our exposure to rising interest rates. This type of hedge is accounted for as a fair value hedge. We assess hedge effectiveness primarily under the qualitative hedge effectiveness method. AFS securities are carried at fair value. Changes in fair value on AFS securities are recognized into AOCI in our statements of condition. The adjustment to the AFS security's carrying amount attributable to fair value changes in the benchmark interest rate is immediately recognized in interest income in our statements of income. Any gain or loss on these AFS securities that is not attributable to changes in the benchmark interest rate is recognized into AOCI. Changes in fair value on the derivative hedging these AFS securities in a fair value hedging relationship are immediately recognized into interest income into our statements of income in order to offset the fair value changes in the benchmark interest rate.

Economic Hedges

We may manage against prepayment and duration risk by funding investment debt securities with consolidated obligations that have call features, by economically hedging the prepayment risk with caps, floors, or by adjusting the duration of the securities by using derivatives to modify the cash flows of the securities.

We may also manage the risk arising from changing market prices and volatility of investment debt securities classified as trading debt securities by entering into derivative financial instruments (economic hedges) that offset the changes in fair value of the securities. The market value changes of both the trading debt securities and the associated derivatives are recognized in noninterest income.

Discount Notes

Cash Flow Hedges

We are exposed to the variability in the total net proceeds received from forecasted zero-coupon discount note issuances, which is attributable to changes in the benchmark interest rate, LIBOR. Our hedge objective/strategy is to hedge the total net proceeds received from “rolling” forecasted zero-coupon discount note issuances attributable to changes in LIBOR by entering into interest rate swap(s) to mitigate such risk. The life of the hedging relationship between the hedging instrument and the hedged item is from hedge inception until the hedge relationship ends, which is the last forecasted discount note issuance date of the hedge relationship. We are hedging the total net proceeds attributable to changes in LIBOR related to the forecasted issuance (and re-issuance) of zero-coupon fixed-rate discount notes with a three or six month tenor. We primarily use a pay-fixed interest rate swap or “swap” as the hedging instrument in which the interest rate resets every three or six months, whichever is applicable.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Consolidated Obligation Bonds

Fair Value Hedges

We endeavor to manage the fair value risk of a consolidated obligation by matching the cash inflow on the derivative with the cash outflow on the consolidated obligation bonds. For instance, when a fixed-rate consolidated obligation bond is issued, we may simultaneously enter into an interest rate LIBOR or OIS or SOFR swap in which we receive fixed cash flows from a counterparty designed to offset in timing and amount the cash outflows we pay on the consolidated obligation bond. We also hedge the benchmark rate on callable fixed-rate step-up consolidated obligation bonds at specified intervals where we own a call option(s) to terminate the consolidated obligation bond. The hedging instrument is a fixed-rate interest rate swap with a matching step-up feature that converts the callable fixed-rate step-up bond into a floating rate liability and has an offsetting call option(s) to terminate the interest rate swap. Such transactions are treated as fair value hedges. We assess hedge effectiveness primarily under the qualitative hedge effectiveness method. However, in certain cases where all conditions are met, hedge effectiveness is assessed using the shortcut method. We apply shortcut accounting to certain noncallable fixed-rate consolidated obligations.

Fair Value Option

We may elect the fair value option for financial instruments, such as advances, MPF Loans held for sale, consolidated obligation discount notes and bonds, in cases where hedge accounting treatment may not be achieved due to the inability to meet the hedge effectiveness testing criteria, or in certain cases where we wish to mitigate the risk associated with selecting the fair value option for other instruments. Electing the fair value option for a financial instrument allows us to better match the changes in fair value on that financial instrument with the interest rate swap economically hedging it.

Our Asset/Liability Management Committee provides oversight of our risk management practices and policies. This includes routine reporting to senior Bank management and the Board of Directors, as well as maintaining the Income and Market Value Risk Policy, which defines our interest rate risk limits. The table below reflects the expected change in market value of equity for the stated increase or decrease in interest rates based on our models and related loss limit for each scenario established in the policy. For our down scenario shock analysis, the down shocks are constrained by scenarios provided by our regulator so that shocked rates will not go negative. As a result, we set a floor for the down shock scenario at 10 bps. Due to the low rate environment, this floor setting was triggered in our down shock scenarios presented below.

	December 31, 2020		December 31, 2019	
Scenario as of	**Change in Market Value of Equity**	**Loss Limit**	Change in Market Value of Equity	Loss Limit
-200 bp	**$ 421**	**$ (450)**	$ 199	$ (450)
-100 bp	**225**	**(200)**	58	(200)
-50 bp	**140**	**(90)**	29	(90)
-25 bp	**96**	**(45)**	15	(45)
+25 bp	**(11)**	**(45)**	(20)	(45)
+50 bp	**(31)**	**(90)**	(46)	(90)
+100 bp	**(84)**	**(200)**	(107)	(200)
+200 bp	**(187)**	**(450)**	(243)	(450)

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table outlines our hedge activity by hedged item or economic risk exposure, hedging instrument, hedge type and notional amount by hedging activity.

As of December 31,			Notional Amount	
Hedged Item/Economic Risk Exposure [a]	**Hedge Type**	**Hedging Instrument**	**2020**	2019
Investment Debt Securities	**Fair value**	Receive floating, pay fixed interest rate swap	**$ 11,713**	$ 10,323
	Economic	Receive floating, pay fixed interest rate swap	**4,550**	4,600
			16,263	14,923
Advances	**Fair value**	Receive floating, pay fixed interest rate swap (without options)	**10,596**	4,731
		Receive floating, pay fixed interest rate swap (with options)	**6,698**	6,155
	Economic	Receive floating, pay fixed interest rate swap (without options)	**183**	774
		Receive floating, pay fixed interest rate swap (with options)	**1,174**	1,277
		Interest rate cap floor corridor collar	**3**	1,003
		Other	**(1)**	39
			18,653	13,979
MPF Loans	**Economic**	A combination that may include swaps, swaptions, caps, floors, futures, forward settlements and/or to-be-announced (TBA) forward contracts	**3,311**	6,455
Discount Notes	**Economic**	Receive fixed, pay floating interest rate swap	**2,000**	18,000
	Cash flow	Interest rate cap, floor, or swap	**1,177**	1,134
			3,177	19,134
Consolidated Obligation Bonds	**Fair value**	Receive fixed, pay floating interest rate swap (without options)	**8,145**	8,367
		Receive fixed, pay floating interest rate swap (with options)	**1,165**	7,800
	Economic	Receive fixed, pay floating interest rate swap (without options)	**269**	3,800
		Receive fixed, pay floating interest rate swap (with options)	**25**	601
		Other	**5**	34
			9,609	20,602
Intermediary transactions on behalf of members with counterparties	**Economic**	Receive floating, pay fixed interest rate swap	**2**	7
Mortgage purchase commitments	**Standalone**	Mortgage delivery commitment	**2,831**	935
Total			**$ 53,846**	$ 76,035

[a] Hedged item only applies to hedges that qualify for hedge accounting. Economic risk exposure applies economic hedges that are accounted for at fair value.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Measurement of Market Risk Exposure

To measure our exposure, we discount the cash flows generated from modeling the terms and conditions of all interest rate-sensitive securities using current interest rates to determine their fair values or spreads to the reference curve for securities where third party prices are used. This includes considering explicit and embedded options using a lattice model or Monte Carlo simulation. We estimate yield curve, option, and basis risk exposures by calculating the fair value change in relation to various parallel changes in interest rates, implied volatility, prepayment speeds, spreads to the swap curve and mortgage rates.

Our key interest rate risk exposures and interest rate risk within specific financial instruments are discussed below.

Key Interest Rate Risk Exposures:

- *Yield curve risk* - We are exposed to interest rate movements in certain yield curves, such as LIBOR, SOFR, and OIS, which are used to discount the future cash flows attributable to our financial instruments, including derivatives. We measure our yield curve risk as follows:
  - *Yield risk* - Change in market value for a one basis point parallel increase in the swap curve.
- *Option risk* - We are exposed to option risk as the value of option positions (explicit and embedded) vary due to changes in the implied volatility of the yield curve as well as the yield curve itself. We measure our option risk as follows:
  - *Option risk (implied volatility)* – Change in market value for a one percent parallel increase in the swaption volatility.
  - *Option risk (prepayment speeds)* – Change in market value for a one percent increase in prepayment speeds.
- *Basis risk* - We are exposed to basis risk as the yields on different assets, liabilities and derivatives are determined on different yield curves. This includes (1) differences between the reference curve and the Office of Finance cost of funds or consolidated obligation curve; (2) changes in individual securities' spreads to the reference curve as a result of changes in supply, demand, and credit quality of different securities in the market; and (3) changes in mortgage rates relative to the reference curve. We measure our basis risk as follows:
  - *Basis risk (spread to swap curve)* – Change in market value for a one basis point parallel increase in the spread to the reference curve.
  - *Basis risk (mortgage spread)* – Change in market value for a one basis point increase in mortgage rates.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table summarizes our sensitivity to various interest rate risk exposures in terms of changes in market value.

		Option Risk		Basis Risk	
	Yield Curve Risk	Implied Volatility	Prepayment Speeds	Spread to Swap Curve	Mortgage Spread
As of December 31, 2020					
Advances	**$ (10)**	**$ 2**	**$ —**	**$ (14)**	**$ —**
MPF Loans	**(2)**	**(4)**	**(4)**	**(3)**	**1**
Mortgage Backed Securities	**(11)**	**—**	**—**	**(11)**	**—**
Other interest earning assets	**(1)**	**—**	**—**	**(3)**	**—**
Interest-bearing liabilities	**5**	**2**	**—**	**6**	**—**
Derivatives	**19**	**(1)**	**—**	**—**	**—**
Total	**$ —**	**$ (1)**	**$ (4)**	**$ (25)**	**$ 1**
As of December 31, 2019					
Advances	$ (7)	$ 2	$ —	$ (13)	$ —
MPF Loans	(3)	(6)	(3)	(4)	2
Mortgage Backed Securities	(9)	—	—	(10)	—
Other interest earning assets	(1)	—	—	(2)	—
Interest-bearing liabilities	6	5	—	7	—
Derivatives	13	(3)	—	—	—
Total	$ (1)	$ (2)	$ (3)	$ (22)	$ 2

As of December 31, 2020, our total sensitivity to changes in implied volatility was $(1) million. At December 31, 2019, our sensitivity to changes in implied volatility was $(2) million. These sensitivities are limited in that they do not incorporate other risks, including but not limited to, non-parallel changes in yield curves, prepayment speeds, and basis risk related to differences between the swap and the other curves. Option positions embedded in our mortgage assets and callable debt impact our yield curve risk profile, such that swap curve changes significantly greater than one basis point cannot be linearly interpolated from the table above.

Duration of equity is another measure to express interest rate sensitivity. We report the results of our duration of equity calculations to the FHFA each quarter. We measure duration of equity in a base case using the actual yield curve as of a specified date and then shock it with an instantaneous shift of the entire curve. The following table presents the duration of equity reported by us to the FHFA in accordance with the FHFA's guidance, which prescribes that down and up interest-rate shocks equal 200 basis points. The results are shown in years of duration equity. We continue to monitor impacts of the COVID-19 pandemic on the markets and the economy which may impact our mortgage prepayment speed projections and duration of equity in the fourth quarter of 2020.

As of December 31, 2020			As of December 31, 2019		
Down 200 bps	**Base**	**Up 200 bps**	Down 200 bps	Base	Up 200 bps
1.4	**0.6**	**1.4**	2.2	1.2	2.4

As of December 31, 2020, on a U.S. GAAP basis, our fair value surplus (relative to book value) was $330 million, and our market value of equity to book value of equity ratio was 105%, compared to $266 million and 105% at December 31, 2019. The COVID-19 pandemic continues to affect the markets and the economy in the fourth quarter of 2020. However, with the government and Federal Reserve accommodated policies in place, the markets continued to normalize in fourth quarter of 2020. Our market to book value of total capital for regulatory risk-based capital purposes differs from this GAAP calculation, as discussed in **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** to the financial statements.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 8. Financial Statements and Supplementary Data.

Our **Annual Financial Statements and Notes,** including the **Report of Independent Registered Public Accounting Firm**, are set forth starting on page F-1 to the financial statements.

Supplementary Data - Selected Quarterly Financial Data (Quarter amounts are unaudited)

	Year	4th	3rd	2nd	1st
2020					
Interest income	**$ 1,435**	**$ 238**	**$ 285**	**$ 347**	**$ 565**
Interest expense	**840**	**96**	**116**	**209**	**419**
Provision for (reversal of) credit losses	**7**	**—**	**1**	**4**	**2**
Net interest income after provision for (reversal of) credit losses	**588**	**142**	**168**	**134**	**144**
Investment securities gains	**109**	**109**	**—**	**—**	**—**
Other noninterest income	**(5)**	**(8)**	**(8)**	**9**	**2**
COVID-19 relief program expense	**28**	**4**	**5**	**19**	**—**
Other noninterest expense	**247**	**64**	**60**	**66**	**57**
Affordable Housing Program assessment	**43**	**18**	**10**	**6**	**9**
Net income	**$ 374**	**$ 157**	**$ 85**	**$ 52**	**$ 80**
2019					
Interest income	$ 2,635	$ 584	$ 662	$ 703	$ 686
Interest expense	2,177	473	549	587	568
Net interest income after provision for (reversal of) credit losses	458	111	113	116	118
Noninterest income	100	32	29	21	18
Noninterest expense	223	67	54	52	50
Affordable Housing Program assessment	35	8	9	9	9
Net income	$ 300	$ 68	$ 79	$ 76	$ 77

(Dollars in tables in millions except per share amounts unless otherwise indicated)

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, as of the end of the period covered by this report (the Evaluation Date). Based on this evaluation, the principal executive officer and principal financial officer concluded as of the Evaluation Date that the disclosure controls and procedures were effective such that information relating to us that is required to be disclosed in reports filed with the SEC: (i) is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Exchange Act 13a-15(f). Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

Our management, which includes our principal executive officer and principal financial officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, management uses as guidance the framework developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in “Internal Control - Integrated Framework (2013)” and other authoritative guidance on governance and internal control. The assessment included extensive documenting, evaluating and testing the design and operating effectiveness of our internal control over financial reporting. Management concluded that based on its assessment, our internal control over financial reporting was effective as of December 31, 2020. The effectiveness of our internal control over financial reporting as of December 31, 2020, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report included herein.

Changes in Internal Control over Financial Reporting

For the quarter ended December 31, 2020, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Consolidated Obligations

Our disclosure controls and procedures include controls and procedures for accumulating and communicating information relating to our joint and several liability for the consolidated obligations of other FHLBs. Because the FHLBs are independently managed and operated, our management relies on information that is provided or disseminated by the FHFA, the Office of Finance or the other FHLBs, as well as on published FHLB credit ratings, in determining whether the FHFA's joint and several liability regulation is probable to result in a direct obligation for us or whether it is reasonably possible that we will accrue a direct liability.

Our management also relies on the operation of the FHFA's joint and several liability regulation that requires each FHLB to file with the FHFA a quarterly certification that it will remain capable of making full and timely payment of all of its current obligations, including direct obligations, coming due during the next quarter. In addition, if an FHLB cannot make such a certification or if it projects that it may be unable to meet its current obligations during the next quarter on a timely basis, it must file a notice with the FHFA. Under the FHLB Act and related regulation, the FHFA may order any FHLB to make principal and interest payments on any consolidated obligations of any other FHLB, or allocate the outstanding liability of an FHLB among all remaining FHLBs on a pro rata basis in proportion to each FHLB's participation in all consolidated obligations outstanding or on any other basis.

Based on these factors, we do not expect to pay any additional amounts on behalf of other FHLBs under our joint and several liability as of December 31, 2020, and as a result, we did not accrue a liability. For additional information, see **Note 10 - Consolidated Obligations** and **Note 16 - Commitments and Contingencies** to the financial statements.

Item 9B. Other Information.

None.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

PART III

Item 10. Directors, Executive Officers, and Corporate Governance.

Our Board is comprised of a combination of industry directors elected by the Bank's member institutions (referred to as member directors) on a state-by-state basis and independent directors elected by a plurality of the Bank's members (referred to as independent directors). No member of the Bank's management may serve as a director of an FHLB. Our Board currently includes ten member directors and seven independent directors. In addition, there is currently a vacant independent directorship to which our Board will appoint another independent director in accordance with the rules discussed below.

Nomination of Member Directors

Member directors are required by statute and regulation to meet certain specific criteria in order to be eligible to be elected and serve as Bank directors. To be eligible an individual must:

- be an officer or director of a Bank member institution located in the state in which there is an open Bank director position;
- the member institution must be in compliance with the minimum capital requirements established by its regulator; and
- the individual must be a U.S. citizen.

These criteria are the only permissible eligibility criteria that member directors must meet. The FHLBs are not permitted to establish additional eligibility criteria for member directors or nominees. For member directors, each eligible institution may nominate representatives from member institutions in its respective state to serve four-year terms on the Board of the Bank. As a matter of statute and regulation, only FHLB stockholders may nominate and elect member directors. FHLB Boards are not permitted to nominate or elect member directors, although they may appoint a director to fill a vacant directorship in advance of the next annual election. Specifically, institutions which are members required to hold capital stock in the Bank as of the record date (i.e., December 31 of the year prior to the year in which the election is held) are entitled to participate in the election process unless they have been involuntarily terminated as a member at the time of voting. With respect to member directors, under FHFA regulations, no director, officer, employee, attorney, or agent of the Bank (except in his/her personal capacity) may, directly or indirectly, support the nomination or election of a particular individual for a member directorship. Because of the structure of FHLB member director nominations and elections, we do not know what factors our member institutions consider in selecting member director nominees or electing member directors.

Nomination of Independent Directors

For independent directors, the members elect these individuals on an at large basis to four-year terms, subject to FHFA designation. Independent directors cannot be officers or directors of a Bank member, and must meet certain statutory and regulatory eligibility criteria. To be eligible to serve as an independent director, an individual must be a citizen of the United States and a bona fide resident of the district in which the Bank is located. FHFA regulations require that an independent director (other than a public interest independent director) must have experience in or knowledge of one or more of the following areas: auditing and accounting, derivatives, financial management, organizational management, project development, risk management practices and the law. In addition, the FHFA regulation requires a public interest independent director to have more than four years' experience representing consumer or community interests in banking services, credit needs, housing or consumer financial protection.

Under FHFA regulation, our members are permitted to nominate candidates to be considered by the Bank to be included on the nominee slate and our Board determines the nominees after consulting with the Bank's Community Investment Advisory Council (Advisory Council). FHFA regulations permit a Bank director, officer, attorney, employee or agent and our Board and Advisory Council to support the candidacy of any person nominated by the Board for election to an independent directorship. Our Board selected independent director nominees based on their qualifications as described in each independent director's biography below.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

2020 Director Election

Voting rights and process with regard to the election of member and independent directors are set forth in the FHLB Act and FHFA regulations. For the election of both member directors and independent directors, each eligible member institution is entitled to cast one vote for each share of capital stock that it was required to hold as of the record date; however, the number of votes that each institution may cast for each directorship cannot exceed the average number of shares of capital stock that were required to be held by all member institutions located in that state on the record date. The only matter submitted to a vote of shareholders in 2020 was the election of certain member and independent directors, which occurred in the fourth quarter of 2020 as described above. We conducted this election to fill three open member directorships and two open independent directorships for 2021 as designated by the FHFA. In 2020, the nomination and election of directors was conducted electronically. No meeting of the members was held in regard to the election. Our Board does not solicit proxies, nor are eligible member institutions permitted to solicit or use proxies to cast their votes in an election for member or independent directors. Information about the results of the election, including the votes cast, was reported in an 8-K filed on November 6, 2020, as amended by an 8-K/A filed on December 15, 2020.

Information Regarding Current Directors of the Bank

The following table provides information regarding each of our directors as of February 28, 2021.

Name	Age	Director Since	Expiration of Term as of December 31,
John K. Reinke, Chairperson [b]	69	2012	2023
James T. Ashworth, Vice Chairperson [a]	69	2013	2024
Edward P. Brady [d]	57	2009	2023
Mary J. Cahillane [d]	69	2011	2024
Mark J. Eppli [d]	59	2012	2021
Joseph Fazio III [b]	59	2017	2024
Michelle L. Gross [a]	50	2015	2024
James H. Hegenbarth [b]	57	2018	2021
Phyllis Lockett [d]	55	2015	2023
David J. Loundy [a]	52	2020	2023
David R. Pirsein [a]	68	2015	2022
Leo J. Ries [c]	67	2009	2022
Lois Alison Scott [d]	60	2017	2023
Michael G. Steelman [a]	70	2011	2022
Ty R. Taylor [b]	53	2019	2022
Daniel G. Watts [a]	61	2018	2021
Gregory A. White [c]	57	2009	2021

[a] Illinois member director.
[b] Wisconsin member director.
[c] Public interest independent director.
[d] Independent director.

James T. Ashworth joined CNB Bank & Trust, N.A. in 1978 and has served in many capacities, including as Vice Chairman since 1989 and as President and CEO from 1989 to 1997, as well as serving as Vice Chairman and President and CEO of its holding company, CNB Bank Shares, Inc. since 1989. Mr. Ashworth served as Chairman of the Community Bankers Association of Illinois (CBAI) and as an elected director of the Independent Community Bankers of America, on the state association's Legislative Committee and the national association's Regulation Review Committee; he was named CBAI's "Outstanding Member" in 1995. He also has previously served on the Illinois State Treasurer's Community Bank Advisory Council and as an appointed delegate to the White House Conference on Small Business. Mr. Ashworth earned a Bachelor of Science degree from the University of Miami, and is a graduate of the Graduate School of Banking in Madison, Wisconsin, as well as its post-graduate program. Mr. Ashworth has also served on numerous local boards, including a community hospital, a chamber of commerce, an economic development corporation, and a community foundation.

Mr. Ashworth serves as the Bank's Vice Chairperson of the Board and Vice Chairperson of the Executive & Governance Committee. Mr. Ashworth also serves on the following Board committees of the Bank: Audit (Vice Chairperson) and Human Resources & Compensation.

Edward P. Brady is the President and CEO of Home Builders Institute (HBI), a position he's held since November 2018. HBI is a national nonprofit that trains underserved populations, including veterans, transitioning military, high school students and justice-involved youth and adults for careers in the building industry. He is also the president/owner of Brady Homes in Bloomington, Illinois since 1988. He serves on the Board of Directors for the National Association of Home Builders and the Home Builders Association of Illinois. Mr. Brady is a former director of Freestar Bank, served as Chairman of the Brady for Illinois 2010 campaign, and has previously served on the Board of Habitat for Humanity for Illinois, the Illinois Chamber of Commerce, the Board of Economic Development Council for McLean County, and other community organizations. In 2016, he was the chairman for the National Association of Homebuilders. He currently serves as a director of Enterprise Community Partners. He also served for three years on the Bipartisan Policy Center's Housing Commission as a commissioner. The Board nominated Mr. Brady to serve as an independent director based on his knowledge of and experience in organizational management and project development, as indicated by his background.

Mr. Brady serves on the following Board committees of the Bank: Affordable Housing (Chairperson), Executive & Governance (Alternate) and Public Policy.

Mary J. Cahillane was Chief Financial Officer and Chief Investment Officer of the Spencer Foundation since 2003. She retired in May 2015. She previously worked for Bank of America from 1994 to 2003, Continental Bank from 1981 to 1985 and again from 1989 to 1994 and Texas Commerce Bank from 1985 to 1989, holding a variety of senior roles in asset liability management, risk management, and finance. More specifically, Ms. Cahillane was the Head of Funding and Asset Liability Management at Continental Bank and the Chief Financial Officer for the Global Retail Bank at Bank of America. Following Bank of America's merger with NationsBank, she held the role of Deputy Treasurer of the corporation responsible for Balance Sheet Management, Pension Plan Investments, Corporate Securitizations and Structured Transactions, Rating Agency Relationships and the Parent Company Debt and Liquidity Plan. She was also the organization's first Operational Risk Executive and was a member of the organization's Management Operating Committee. Ms. Cahillane currently serves on the boards of IES Abroad, St. John Berchmans School, Children's First Fund, and PEAK (Partnership to Educate and Advance Kids). Until the sale of the company in October 2017, she served on the board of Forsythe Technology, Inc. and previously served on the boards of ShoreBank Corporation and ShoreBank. The Board nominated Ms. Cahillane to serve as an independent director based on her knowledge of and experience in financial management and risk management practices, as indicated by her background.

Ms. Cahillane serves on the following Board committees of the Bank: Audit, Executive & Governance, and Risk Management (Chairperson).

Mark J. Eppli is currently the Director of the Graaskamp Center for Real Estate, Wisconsin School of Business at the University of Wisconsin - Madison, a position he's held since August 2018. Dr. Eppli was previously Robert B. Bell, Sr. Chair in Real Estate at Marquette University in Milwaukee, Wisconsin from 2002 to 2018, and served as the Director of the Center for Real Estate from 2009 to 2018. He also served as Interim Keyes Dean of Business at Marquette University from 2012 to 2015. Dr. Eppli was also Assistant, Associate, and Full Professor of Finance and Real Estate in the School of Business and Public Management at The George Washington University from 1991 to 2002. He was an active instructor and author for the Urban Land Institute from 1992 to 2012. Dr. Eppli was also a Lecturer and Teaching Assistant at the University of Wisconsin-Madison from 1987 to 1991. Prior to obtaining his doctorate, Dr. Eppli pursued a career in commercial real estate, serving as Manager of Research and Investment Analysis with PM Realty Advisors from 1985 to 1986 and a Specialist in Real Estate Acquisitions at GE Capital Corporation from 1984 to 1985. Dr. Eppli is past recipient of the Greater Washington Urban League's "Volunteer of the Year," Urban Land Institute's "Star Performer, and LISC-Milwaukee's "Navigator" awards for his efforts to attract minorities to the commercial real estate industry. He is a Board member and past President of the Real Estate Research Institute and Distinguished Fellow at NAIOP, the Commercial Real Estate Development Association. The Board nominated Dr. Eppli to serve as an independent director based on his knowledge of and experience in financial management and risk management practices, as indicated by his background.

Dr. Eppli serves on the following Board committees of the Bank: Affordable Housing and Risk Management (Vice Chairperson).

Joseph Fazio III is Co-founder, Board Chairman and CEO of Commerce State Bank, which opened in 2005 and in 2020 had $750 million in assets. Mr. Fazio is the only CEO Commerce State Bank has had. Mr. Fazio also serves as a director of the bank's holding company, Commerce Financial Holdings, Inc. Prior to founding Commerce State Bank, Mr. Fazio led a privately-held marketing company from 2002 to 2004, was Director of Corporate Marketing for Metavante (now FIS) from 1998 to 2002, led Personal Trust Administration for M&I Trust Company (now BMO) from 1995 to 1998, and held several management

positions with IBM from 1983 to 1995. Mr. Fazio is a 1983 graduate of St. Norbert College, and in 1988 earned his master's degree from Edgewood College. He served as a member of the board of directors of the Wisconsin Bankers Association from 2013 to 2016. Mr. Fazio has served as an elected official for the City of Cedarburg and has held several city board appointments. He is the past President of the Greater Cedarburg Community Foundation and chaired the 2018 Washington County United Way Campaign. He has served on the board of non-profits such as St. Francis Borgia School, Walker's Point Youth and Family Center, and the Cedarburg Athletic Booster Club. Mr. Fazio is currently President of the Wisconsin Chapter of the Private Directors Association, and a member of the National Association of Corporate Directors and is an NACD Board Leadership Fellow. Mr. Fazio is the author of the book, "This Might be a Dumb Question, but How Does Money Work?"

Mr. Fazio serves on the following Board committees of the Bank: Audit and Affordable Housing.

Michelle L. Gross has served as Executive Vice President/Chief Operating Officer, Information Systems Officer, and Director of the State Bank of Bement in Bement, Illinois since 2012, in addition to being Community Bank President of the State Bank of Bement-Monticello facility. She has worked at the State Bank of Bement since 1996 in roles with increasing responsibilities, including as Vice President and Information Systems Officer from 2008 to 2012. Ms. Gross currently serves as a director at the State Bank of Cerro Gordo in Cerro Gordo, Illinois and Bement Bancshares, Inc. in Bement, Illinois. She is a former director at The First National Bank of Ivesdale in Ivesdale, Illinois. Ms. Gross is active in a variety of community service organizations and with the Illinois Bankers Association. Through the Illinois Bankers Association, Ms. Gross has served on a number of committees and is currently a member of its Executive Committee, Board of Directors and Chairman of the Illinois Bankpac Board of Directors. She also serves on the Board of Directors of the Kirby Medical Center and is Chairman of the Kirby Foundation, benefiting Kirby Medical Center, and is also Chairman of the Bement Foundation. Ms. Gross is a graduate of the Graduate School of Banking in Madison, Wisconsin, and earned a Bachelor of Science from Western Illinois University.

Ms. Gross serves on the following Board committees of the Bank: Executive & Governance, Human Resources & Compensation (Chairperson), and Risk Management.

James H. Hegenbarth has served as President/CEO of The Park Bank in Madison, Wisconsin since 1999 and a member of its Board of Directors since 1997. He has been in the banking industry since 1985 and served in roles with increasing responsibilities, including consumer loan officer, credit analyst, credit manager, Associate Vice President of Business Banking, Vice President of Business Banking, and Senior Vice President of Lending. Mr. Hegenbarth previously worked at First Bank, N.A. (now U.S. Bank). He is a former Wisconsin Bankers Association (WBA) Board member and a current member of the Government Relations Committee. Mr. Hegenbarth is a Board member of the American Family Children's Hospital at UW Madison, a trustee and Chairman of the Business and Finance Committee at Edgewood High School and the Chairman of the Ronald McDonald House Madison Capital Campaign. He is also a new member of the American Bankers Association (ABA) FHLB Committee. Mr. Hegenbarth is a graduate of the Graduate School of Banking, University of Wisconsin-Madison, and earned his undergraduate degree in Economics from the University of Wisconsin-Madison.

Mr. Hegenbarth serves on the following Board committees of the Bank: Audit and Human Resources & Compensation.

Phyllis Lockett has served since 2014 as the founding CEO of LEAP Innovations, a national non-profit organization that works with educators and technology companies from across the nation to research, pilot and scale new instructional designs and technology solutions that advance student learning. Prior to her role at LEAP, Ms. Lockett served as President and CEO of New Schools for Chicago, a venture philanthropy organization that invests in the start-up of new public schools, since 2005. Ms. Lockett served from 1999 to 2005 as Executive Director of the Civic Consulting Alliance, a pro-bono consulting firm sponsored by the Civic Committee of the Commercial Club of Chicago that leads strategic planning initiatives, process improvement and program development projects for government agencies. She has played an instrumental role in some of the largest initiatives for the City of Chicago, Chicago Public Schools, and Chicago Housing Authority, including the reorganization of the management structure, resident relocation, capital construction, asset management, and economic development strategies to support the Chicago Housing Authority's $1.5 billion Plan for Transformation. Currently, Ms. Lockett serves as a director of the CME Group. Ms. Lockett earned a Master of Management from the Kellogg Graduate School of Management at Northwestern University and a Bachelor of Science in Industrial Engineering from Purdue University.The Board nominated Ms. Lockett to serve as an independent director based on her knowledge of and experience in organizational management, financial management and project development, as indicated by her background.

Ms. Lockett serves on the following Board committees of the Bank: Executive & Governance (Alternate), Human Resources & Compensation (Vice Chairperson), and Operations & Technology (Vice Chairperson).

David J. Loundy has served as Chairman and CEO of Devon Bank headquartered in Chicago, Illinois since 2012. Mr. Loundy also serves as Vice-Chairman of Devon Bank's holding company (Devon Bancorp, Inc.), Managing Member of Devon Bank's investment pool affiliates (Abraham's River, LLC; and The Acheron Cash Fund, LLC; and their manager, 650 Asset Management LLC) and Chairman of Devon Bank's "sponsored" public charity, The Loundy Charitable Foundation. Prior to joining Devon Bank

in 2003, Mr. Loundy practiced intellectual property and computer law and served as an adjunct professor and law school administrator. Mr. Loundy is a past board member of the Community Banker's Association of Illinois (CBAI), and is a current board member of the CBAI's Community BancService Corporation. He has been a board member or endowment board member for a number of community and religious organizations. He is a frequent writer and speaker on religion-based financing issues. Mr. Loundy earned a Bachelor of Arts in Telecommunications from Purdue University and a Juris Doctorate from the University of Iowa, both with distinction.

Mr. Loundy serves on the following Board committees of the Bank: Public Policy and Operations & Technology .

David R. Pirsein has served as President & CEO of First National Bank in Pinckneyville, First Perry Bancorp Inc. and its subsidiary, First National Insurance Services, Inc. since 2005. He has been an active community banker for over 35 years. Mr. Pirsein is a board member and executive committee member of the Shazam Inc. board, an EFT network and payments processor. He is the Chairman and board member of the Community Banker's Association of Illinois and a board member of its subsidiary, the Community BancService Corporation. He also serves on the board of governors of the Southern Illinois Real Estate Title Company, LLC. He is an active participant on the Pinckneyville strategic planning committee and is a Chamber member. Mr. Pirsein previously served two terms on the St. Louis Federal Reserve Board where he held the position of Audit committee chairman for several years. He graduated from Southern Illinois University Carbondale with a degree in Finance and Banking and has attended many banking schools, including the Graduate School of Banking in Madison, Wisconsin.

Mr. Pirsein serves on the following Board committees of the Bank: Executive & Governance (Alternate), Operations & Technology (Chairperson) and Public Policy (Vice Chairperson).

John K. Reinke has been with The Stephenson National Bank & Trust since 1974, where he served as President from 2000 to 2013. Mr. Reinke currently serves as Chair of the board of directors of The Stephenson National Bank & Trust subsequent to his retirement as President & CEO in April 2013. Mr. Reinke previously served on the Government Relations Administrative Council for the American Bankers Association. In addition, he served on the Board of the Wisconsin Bankers Association from 2002 through 2008 and as Chairman from 2006 to 2007. Mr. Reinke also has previously served as a Bay Area Medical Center board member and Treasurer, President of the University of Wisconsin - Marinette Foundation, Inc., President of the Menominee Area Chamber of Commerce, Chairman of the M&M Area Community Foundation, M&M Area Great Lakes Sport Fishermen President, M&M YMCA President, and Marinette County Revolving Loan Committee President.

Mr. Reinke serves as the Bank's Chairperson of the Board and Chairperson of the Executive & Governance Committee. He also serves as an ex officio member of the following Board committees of the Bank: Affordable Housing, Audit, Human Resources & Compensation, Operations & Technology, Public Policy, and Risk Management.

Leo J. Ries was the Executive Director of Local Initiatives Support Corporation (LISC) in Milwaukee, Wisconsin from 2000 until he retired in 2015. He currently works as a private consultant, providing management services for the Prism Economic Development Corporation (PRISM) and the Wisconsin Preservation Fund (WPF). PRISM and WPF are both nonprofit neighborhood development organizations operating in the City of Milwaukee, Wisconsin. Previously for three years, he served as executive director for the Martin Luther King Economic Development Corporation. He currently serves on the Board of Directors for Near West Side Partners, Inc. and Lead2Change, Inc., as well as the Wisconsin Board of Directors for CommonBond Communities, Inc., and the Advisory Council for First-Ring Industrial Redevelopment Enterprise, Inc. Prior to his tenure at LISC, he was Deputy Commissioner for the City of Milwaukee in the Department of Neighborhood Services in 1999 and Director of the Housing and Neighborhood Development Division of the Department of City Development from 1992 to 1998. He served as the Director of the Community Block Grant Administration in the Department of Administration from 1990 to 1992. He served on the Board of Directors of the Neighborhood Improvement Development Corporation from 1992 to 1999, Select Milwaukee, Inc., from 1996 to 2000, Walker's Point Development Corporation from 1999 to 2000, and Canticle Court/Juniper Court from 1999 to 2000. The Board nominated Mr. Ries to serve as an independent director based on his experience representing community interests in housing, as indicated by his background.

Mr. Ries serves on the following Board committees of the Bank: Affordable Housing (Vice Chairperson) and Operations & Technology.

Lois Alison Scott has served as President of Epoch Advisors since 2015. From 2011 to 2015, Ms. Scott served as the Chief Financial Officer for the City of Chicago, the first woman to ever serve in that capacity. In 2011, Ms. Scott co-founded and chaired the Municipal CFO Forum with the Harris School of the University of Chicago. She now chairs the Advisory Board of the Program for Excellence and Equity in Public Finance at Milkin Institute. From 2002 to 2011, Ms. Scott was Chief Executive Officer of a financial advisory firm that served large corporate and governmental clients. Prior to that, she served as President and Vice Chair of a technology company that provided a family of services to schools. Ms. Scott started her career at First Chicago (now JPMorgan), where she was responsible for governmental, healthcare and higher education clients in an eight-state region. She also worked for Bank of America, Donaldson Lufkin & Jenrette and chaired the Management Committee of the

Export-Import Bank of the U.S., after serving as a White House Fellow. From 2015 to August 2017, Ms. Scott served as a director on the board of MBIA, Inc. She served as Vice Chair and Audit Committee Chair of the Chicago Stock Exchange, where she was a director from 2016 to 2018 prior to its sale to the New York Stock Exchange. She currently serves on the board of the Kroll Bond Rating Agency, and ASC-ST Holdings (Sunrise Transportation). Ms. Scott has served on the board of numerous civil rights nonprofit organizations focused on educational opportunity, economic empowerment, leadership development, and sustainable finance practices. The Board nominated Ms. Scott to serve as an independent director based on her knowledge of and experience in accounting and financial management practices, as indicated by her background.

Ms. Scott serves on the following Board committees of the Bank: Audit (Chairperson), Executive & Governance, and Risk Management.

Michael G. 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 from 2008 to 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.

Mr. Steelman serves on the following Board committees of the Bank: Executive & Governance, Human Resources & Compensation and Public Policy.

Ty R. Taylor has been President and CEO of Waukesha State Bank since 2004, and has been with the bank since 1991. Prior to becoming President and CEO of Waukesha State Bank, he oversaw the bank's commercial and mortgage lending services, among other responsibilities. From 1990 to 1991, Mr. Taylor was employed at M&I Marshall & Ilsley Bank. Mr. Taylor has volunteered extensively with various local non-profit organizations. Mr. Taylor has a B.A. in Economics from Wheaton College, Wheaton, IL, and is a graduate of the Graduate School of Banking at the University of Wisconsin-Madison.

Mr. Taylor serves on the following Board committees of the Bank: Operations & Technology and Risk Management.

Daniel G. Watts is a Director and the President of Forest Park National Bank and Trust Company, which he joined in January 2010. Mr. Watts has been an executive banking professional for over 25 years. He began his career at The American National Bank and Trust Company of Chicago, after which he became an Executive Officer and Director at Cosmopolitan Bank and Trust, Pullman Bank and Trust and Park National Bank (all subsidiaries of the former FBOP Corporation). Mr. Watts currently serves as a board member of Community Investment Corporation (CIC) and Chicago Neighborhood Initiatives (CNI). Previously, he served as a director of Neighborhood Housing Services (NHS). Mr. Watts is the past Board Chairman of the Illinois Bankers Association and past President of The Bankers Club of Chicago. Mr. Watts earned an undergraduate degree in Economics from Northwestern University, a law degree from Loyola University of Chicago School of Law, and an MBA from the University Of Chicago Booth School Of Business.

Mr. Watts serves on the following Board committees of the Bank: Affordable Housing and Audit.

Gregory A. White has been the President and Chief Executive Officer for LEARN Charter Schools located in Chicago, Illinois, from 2008 to present. Mr. White is leading an entrepreneurial effort to grow this nationally recognized network of high performing elementary schools from ten serving 4,200 students to sixteen schools serving 8,000 students. Prior to LEARN, Mr. White worked for The Chicago Community Trust (Vice President of Strategy & Operations), Chicago Venture Partners, L.P. (Co-founder & Partner), Salomon Brothers (Bond Salesman), Continental Bank (Real Estate Lender), The Rouse Company (Research Analyst) and the Enterprise Foundation (Assistant Field Officer). Mr. White also served on the board of directors of Learn Charter School Network, Lakefront Supportive Housing Christ the King High School, and the Chicago Transit Authority Citizens Advisory Board. Mr. White earned a Masters of Business Administration from Harvard Business School and graduated with honors from Brown University. The Board nominated Mr. White to serve as an independent director based on his experience representing consumer and community interests in credit needs and housing, as indicated by his background.

Mr. White serves on the following Board committees of the Bank: Audit, Executive & Governance (Alternate), and Public Policy (Chairperson).

There are no family relationships among the above directors or our executive officers.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Audit Committee

Our Audit Committee is comprised of non-executive directors. The Audit Committee Charter is available in full on our website at http://fhlbc.com/docs/default-source/about-us-pdfs/ac-charter.pdf.

Audit Committee Report

March 9, 2021

The Audit Committee is composed of eight non-executive directors, three of whom are non-member directors, and operates under a written charter adopted by the Board of Directors that was last amended on April 28, 2020. Our Board of Directors determined that all Audit Committee members (Directors Scott, Ashworth, Cahillane, Fazio, Hegenbarth, Watts, White, and Reinke) are “Audit Committee financial experts” for purposes of SEC requirements. Our Board of Directors elected to use the New York Stock Exchange definition of “independence” and, in doing so, concluded that each of the Directors on the Audit Committee, during 2020 and currently, is not independent as they are officers or directors of member institutions which do business with the Bank, with the exception of Directors Scott, Cahillane and White, who do not serve as officers or directors of a Bank member. Under Federal Housing Finance Agency (FHFA) regulations applicable to members of the Audit Committee, each of the Audit Committee members is independent. For further discussion about the Board's analysis of director independence under the New York Stock Exchange rules, see **Director Independence** on page 122.

In accordance with its written charter adopted by the Board of Directors, the Audit Committee, assists the Board of Directors in fulfilling its responsibility for oversight of the Bank's accounting, reporting and financial practices, including the integrity of its financial statements, among other areas. The Audit Committee is directly responsible for the appointment and oversight of our independent auditors, PricewaterhouseCoopers LLP (PwC), including review of their qualifications, independence and performance. Among other duties, the Audit Committee also oversees:

- the integrity of the Bank’s financial statements, the Bank’s accounting and financial reporting processes and systems;
- internal control over the Bank’s financial reporting and safeguarding the Bank’s assets;
- the programs, policies and systems of the Bank designed to ensure compliance with applicable laws, regulations, other legal and regulatory requirements and policies;
- the programs, policies and systems of the Bank designed to ensure the integrity and reliability of Bank operations and technology; including cybersecurity;
- practices with respect to risk assessment and risk management;
- independent auditor's qualifications and independence;
- performance of the internal audit function; and
- performance of the independent auditor.

The Bank is one of 11 district Federal Home Loan Banks (FHLBs) that together with the Office of Finance (OF), comprise the Federal Home Loan Bank System (System). Each FHLB operates as a separate entity with its own management, employees, and board of directors and each is regulated by the FHFA. The OF has responsibility for the issuance of consolidated obligations on behalf of the FHLBs, and for publishing combined financial reports (CFRs) of the FHLBs. Accordingly, the System has determined that it is optimal to have the same independent audit firm to coordinate and perform the separate audits of the OF and each FHLB. The FHLBs and OF collaborate in selecting, setting the compensation of, and evaluating the performance of the independent auditor, but the responsibility for the appointment and oversight of the independent auditor remains solely with the audit committees of each FHLB and the OF.

PwC has been the independent auditor for the System and the Bank since 1990. The Audit Committee engages in rigorous evaluations each year on the independent auditor. In connection with the appointment of the Bank’s independent auditor, the Audit Committee’s evaluation included consultation with the Audit Committees of the other FHLBs and the OF. Specific considerations included:

- an analysis of the risks and benefits of retaining the same firm as independent auditor versus engaging a different firm, including consideration of:
    - PwC engagement audit partner, engagement quality review partner and audit team rotation;

  - PwC's tenure as the Bank's and the Systems' independent auditor;
  - benefits associated with engaging a different firm as independent auditor; and
  - potential disruption and risks associated with changing the independent auditor.
- PwC's depth and breadth of understanding of our business, operations, and accounting policies and practices;
- PwC's historical and recent performance on the Bank's audit, including the results of an internal survey of PwC service and quality;
- an analysis of PwC's known legal risks and significant proceedings;
- external data relating to audit quality and performance, including recent Public Company Accounting Oversight Board (PCAOB) audit quality inspection reports on PwC and its peer firms as well as metrics indicative of audit quality;
- the appropriateness of PwC's fees, on both an absolute basis and as compared to its peer firms; and
- the diversity of PwC's leadership and staff assigned to the engagement.

Audit Fees represent fees for professional services provided in connection with the audit of the Bank's annual financial statements and internal control over financial reporting and reviews of the Bank's quarterly financial statements, regulatory filings, consents and other SEC matters.

The Audit Committee has reviewed and approved the fees paid to the independent auditor for audit, audit-related and non-audit services, and the Audit Committee has determined that PwC does not provide any non-audit services that would impair its independence. To the Audit Committee's knowledge, there are no other matters which cause the Audit Committee to believe PwC is not independent.

In accordance with SEC rules, audit partners are subject to rotation requirements to limit the number of consecutive years an individual partner may provide service to the Bank. For lead and concurring partners, the maximum number of consecutive years of service in that capacity is five years. The process for selection of the Bank's lead audit partner pursuant to this rotation policy involves a meeting between the Chairperson of the Audit Committee and the candidate for the role, as well as discussion by the full Audit Committee and management. Our current lead partner has served since 2019.

Based on its reviews discussed above, the Audit Committee recommended to the Board of Directors the appointment of PwC as the Bank's independent registered public accounting firm for 2021.

The Audit Committee annually reviews its written charter and practices, and has determined that its charter and practices are consistent with the applicable FHFA regulations and the provisions of the Sarbanes-Oxley Act of 2002.

Among other matters, the Audit Committee also:

- reviewed the scope of and overall plans for the external and internal audit program;
- discussed with management and independent auditor the Bank's processes for risk assessment and risk management;
- discussed with management and the independent auditor significant matters, including Critical Audit Matters, if any, arising during the audit and other areas of significant judgment or estimation in preparing the financial statements;
- reviewed and challenged management and the independent auditor, as necessary, on new or changed accounting policy and policy alternatives;
- reviewed and challenged management and the independent auditor, as necessary, on how they have established materiality thresholds for establishing the controls over financial reporting and their audit process;
- discussed with management the use of any non-GAAP measures in the financial statements;
- reviewed and approved the Bank's policy with regard to the hiring of former employees of the independent auditor;
- reviewed and approved the Bank's policy for the pre-approval of audit and permitted non-audit services by the independent auditor;
- received reports pursuant to the Bank's policy for the submission and confidential treatment of communications from employees and others about accounting, internal controls and auditing matters;
- reviewed with management the scope and effectiveness of the Bank's disclosure controls and procedures, including for

purposes of evaluating the accuracy and fair presentation of the Bank's financial statements in connection with certifications made by the Bank's President and Chief Financial Officer; and

- reviewed significant legal developments and the Bank's processes for monitoring compliance with law and Bank policies.

The Audit Committee has established procedures for the receipt, retention and treatment, on a confidential basis, of any complaints we receive. The Bank encourages employees and third party individuals and organizations to report concerns about the Bank's accounting controls, auditing matters or anything else that appears to involve financial or other wrongdoing.

Management has the primary responsibility for the preparation and integrity of the Bank's financial statements, accounting and financial reporting principles, and internal controls and procedures designed to assure compliance with accounting standards and applicable laws and regulations. The Bank's independent auditor, PwC, is responsible for performing an independent audit of the Bank's financial statements and of the effectiveness of internal control over financial reporting in accordance with the standards of the PCAOB (United States) and, with respect to the financial statements, the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. The internal auditors are responsible for preparing an annual audit plan and conducting internal audits under the control of the General Auditor, who reports to the Audit Committee. The Audit Committee's responsibility is to monitor and oversee these processes. The Audit Committee met 10 times during 2020, and has regular executive sessions with both internal and independent auditors.

In this context, prior to their issuance, the Audit Committee reviewed and discussed the quarterly and annual earnings releases, financial statements (including the presentation of non-GAAP financial information) and disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations" (including significant accounting policies and judgments) with management, the Bank's internal auditors and PwC. The Audit Committee also reviewed the Bank's policies and practices with respect to financial risk assessment, as well as its processes and practices with respect to enterprise risk assessment and management. The Audit Committee discussed with PwC matters required to be discussed by the applicable requirements of the PCAOB. The Audit Committee has also received the written disclosures and the letter from PwC required by the applicable requirements of the PCAOB regarding PwC's communications with the Audit Committee concerning independence, and has discussed with PwC its independence [Item 407(d)(3) of Reg. S-X]. The Audit Committee met with PwC and with the Bank's internal auditors, in each case, with and without other members of management present, to discuss the results of their respective examinations, the evaluations of the Bank's internal controls and the overall quality and integrity of the Bank's financial reporting. Management represented to the Audit Committee that the Bank's financial statements were prepared in accordance with accounting principles generally accepted in the United States of America.

Based on the reviews and discussions with management, the internal auditors, and PwC, as well as the review of the representations of management and PwC's report, the Audit Committee recommended to the Board of Directors, and the Board of Directors has approved, to include the audited financial statements in the Bank's Annual Report on Form 10-K for the year ended December 31, 2020, for filing with the Securities and Exchange Commission.

As of the date of filing for this Annual Report on Form 10-K, the members of the Audit Committee are:

Lois Alison Scott, Chairperson

James T. Ashworth, Vice Chairperson

Mary J. Cahillane

Joseph Fazio III

James H. Hegenbarth

Daniel G. Watts

Gregory A. White

John K. Reinke (ex officio)

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Executive Officers of the Registrant

The following table provides certain information regarding our executive officers as of February 28, 2021:

Executive Officer	Age	Capacity in Which Served	Employee of the Bank Since
Michael A. Ericson	49	President and Chief Executive Officer	2005
Kim Cullotta	51	Executive Vice President, Group Head, People, Culture, and Communications	2011
Virxhini Gjonzeneli	39	Executive Vice President, Group Head, Member Support and Strategy	2003
Thomas H.W. Harper*	55	Executive Vice President, General Auditor	2005
Carolyn Jaw	38	Executive Vice President, Group Head, Sales, Strategy, and Solutions	2004
Michelle Jonson	47	Executive Vice President and Chief Risk Officer	2000
Roger D. Lundstrom	60	Executive Vice President and Chief Financial Officer	1984
Samuel J. Nicita	60	Executive Vice President and Chief Information Officer	2008
John Stocchetti	64	Executive Vice President, Group Head, Mortgage Partnership Finance Program	2006
Cedric D. Thurman	56	Executive Vice President, Group Head, Community Investments and Diversity and Inclusion	2018
Laura M. Turnquest	56	Executive Vice President, General Counsel and Corporate Secretary	2004

* Although Mr. Harper is a non-voting member of the Bank's Executive Team, he is not considered an "executive officer" as defined in Rule 3b-7 of the Securities Exchange Act of 1934 because he is not in charge of a principal business unit, division or function, nor does he perform a similar policy making function.

Michael A. Ericson became President and Chief Executive Officer of the Bank on January 1, 2021. Prior to that, Mr. Ericson held the following positions at the Bank: Executive Vice President and Chief Operating Officer during 2020, Executive Vice President and Group Head, Members and Markets from 2014 to 2020, Executive Vice President and Chief Risk Officer from December 2008 to 2014, Senior Vice President and Chief Risk Officer from July 2008 to December 2008, and Senior Vice President of Accounting Policy and SEC Reporting from January 2005 to July 2008. Prior to joining the Bank, Mr. Ericson was Vice President, Accounting Policy at Bank One before the merger with JPMorgan Chase and became Global Treasury Controller at JPMorgan Chase subsequent to the merger from 2003 to 2004. Mr. Ericson was Senior Manager with PricewaterhouseCoopers LLP in the Financial Services Group from 1994 to 2003.

Kim Cullotta joined the Bank's Executive Team in November 2017, and became Senior Vice President and Group Head, Human Resources (now People, Culture, and Communications) in January 2018 and Executive Vice President in January 2021. Ms. Cullotta started with the Bank in 2011, and has served as Senior Vice President, Member Product Support and Senior Vice President, Information Technology. Ms. Cullotta has over 20 years of management experience in diverse financial services institutions, including: Director, Finance at Infinium Capital Management, LLC from 2010 to 2011, Financial Controller/ Compliance Officer at Fox River Securities, LLC from 2007 to 2010 (which was acquired by Infinium), Financial Management & Reporting Director at Ritchie Capital Management, LLC from 2002 to 2007, and Vice President, Finance-Global Markets Group Planning & Reporting at Bank of America from 1996 to 2002.

Virxhini Gjonzeneli became Senior Vice President and Group Head, Strategic Initiatives (now Member Support and Strategy) of the Bank in November 2017, and Executive Vice President in January 2021. Prior to that, she was Senior Vice President, Director of Enterprise Risk Management since 2015. Ms. Gjonzeneli joined the Bank in 2003, and from 2007 to 2015 held positions of increasing levels of responsibilities within the Bank's Credit group, including Assistant Vice President, Senior Markets Credit Analyst and Vice President, Manager of Markets Credit Analysis. Ms. Gjonzeneli received her MBA from the University of Chicago Booth School of Business and her undergraduate degree from Northwestern University. She received her CFA charter designation in 2008.

Thomas H. W. Harper became General Auditor of the Bank in 2006 and Executive Vice President in January 2011. Prior to that, Mr. Harper was Senior Vice President, Audit Director from 2005 to 2006. Prior to joining the Bank, Mr. Harper was First Vice President, Senior Audit Manager with JPMorgan Chase and Co. as well as Bank One, NA, First National Bank of Chicago and Barclays de Zoete Wedd. Mr. Harper was responsible for the internal audit of Technology, Commercial and Investment Bank, Treasury Services and Corporate areas in the United States, United Kingdom and other Asia-Pacific. Mr. Harper was an auditor

Banking and Financial Services with KPMG in London, U.K., from 1987 to 1992. Mr. Harper is a Fellow of the Institute of Chartered Accountants (England and Wales), a Certified Financial Services Auditor, and a Certified Internal Auditor.

Carolyn Jaw joined the Bank's Executive Team in January 2020, and became Senior Vice President and Group Head, Sales, Strategy, and Solutions. She became Executive Vice President in January 2021. From 2015 to 2019, Ms. Jaw was Senior Vice President and Managing Director, Institutional Sales, and most recently had responsibility over institutional sales, marketing, and events. Ms. Jaw has worked in various groups at the Bank since 2004, including the sales, capital markets, and mortgage groups. Previously, Ms. Jaw worked at Hillenbrand Capital Partners, a structured products investment fund, where she focused on pricing, funding, and hedging the residential and commercial mortgage loan and securities portfolios. Ms. Jaw holds a Bachelor of Arts degree in Economics and International Studies from Northwestern University and a Master of Business Administration degree with concentrations in Finance, Economics, Accounting, and Entrepreneurship from the University of Chicago, Booth School of Business.

Michelle Jonson became Executive Vice President, Chief Risk Officer of the Bank in July 2014. Prior to that, she was Senior Vice President and Co-Head of the Members and Markets Group since May 2014. Previously, Ms. Jonson served as Managing Director of the sales, member support, and member marketing relations functions since 2011. In 2000, Ms. Jonson joined the Bank and has managed responsibilities around pricing, funding, and hedging of advances and MPF, and developing operational risk strategies for the Members and Markets Group. Prior to joining the Bank, Ms. Jonson worked as an Investment Analyst for Aon Advisors. She received her CFA charter designation in 2008.

Roger D. Lundstrom has been Chief Financial Officer of the Bank since October 2008 and Executive Vice President and Group Head,Financial Information (now Financial Accounting and Markets) since 2003. Mr. Lundstrom was Senior Vice President, Financial Information of the Bank from 1997 to 2003 and Senior Vice President, Financial Reporting and Analysis of the Bank from 1992 to 1997. Mr. Lundstrom held various positions with the Bank in analysis and reporting functions with increasing levels of responsibility from 1984 to 1992.

Samuel J. Nicita became Executive Vice President and Chief Information Officer of the Bank in January 2016. Prior to that, he was Executive Vice President and Group Head, Community Investment and Member Products Support of the Bank from 2014 to 2015, Senior Vice President and Group Head, Community Investment of the Bank from 2012 to 2014, Community Investment Officer of the Bank from 2011 to 2012, Senior Vice President, Manager Premier Group/Middle Office of the Bank from 2010 to 2011 and Vice President, Manager Premier Group/Middle Office of the Bank from 2008 to 2010. Prior to joining the Bank, Mr. Nicita was Chief Operating Officer of Highview Capital Management from 2006 to 2008, Director of Operations of Ritchie Capital Management from 2001 to 2006 and held various positions with Chicago Research and Trade (which was acquired by Nations Bank, and later merged with Bank of America) from 1990 to 2001.

John Stocchetti has been with the Bank since 2006 and is currently Executive Vice President and Group Head, Mortgage Partnership Finance Program (MPF), a responsibility he assumed in January 2014. From May 2008 to January 2014, Mr. Stocchetti was Executive Vice President and Group Head, Products and Operations (formerly Products, Operations, and Technology), where he led a number of initiatives to upgrade, re-organize, and re-engineer the Bank's operations and technology. Mr. Stocchetti served as Senior Vice President, Project Premier Director of the Bank from 2006 to 2008, where he led the effort to implement an enterprise-wide systems platform that is now the Bank's main operating platform. Prior to joining the Bank, Mr. Stocchetti served in several positions from 2004 to 2006, including Chief Financial Officer, at Ritchie Capital Management, LLC, a multi-strategy hedge fund. Previously, Mr. Stocchetti served in various capacities from 1997 to 2004, including CEO, with Learning Insights, Inc., an e-learning internet company. From 1995 to 1997, Mr. Stocchetti was a Senior Vice President with NationsBank where he was the head of interest rate derivatives operations on a global basis and the Chief Operating Officer of NationsBank Financial Products, a AAA-rated derivatives company. From 1978 to 1995, Mr. Stocchetti was with Continental Bank in Chicago, IL where he held various positions, the latest of which was as a Managing Director of Derivative Products. Mr. Stocchetti holds a Masters of Business Administration from the University of Chicago and earned a Bachelors of Science in economics from the University of Illinois at Chicago. Mr. Stocchetti served as an adjunct professor at the Illinois Institute of Technology where he taught classes for six years in the graduate level Financial Markets and Trading program.

Cedric D. Thurman joined the Bank in the newly created position of Senior Vice President & Chief Diversity Officer in September 2018. Since January 2020, Mr. Thurman serves as Senior Vice President and Group Head, Community Investments and Diversity and Inclusion. He became Executive Vice President in January 2021. In his role as Chief Diversity Officer, Mr. Thurman is responsible for shaping the Bank's culture to provide opportunities for all employees and help the Bank be a catalyst for change for its member institutions and the communities they serve. In his role leading Community Investments, Mr. Thurman is responsible for oversight of the Bank's products, programs and awards to support its member institutions' affordable housing and community lending initiatives. Since 2017, Mr. Thurman is the Founder and CEO of Talks Inc., a not for profit organization being developed to provide life skills programming for youth via video-based conversations. Prior to developing Talks Inc., from 2014 to 2017, Mr. Thurman served as U.S. Head of Inclusion at BMO Harris Bank. In this role, Mr. Thurman was responsible for the diversity and inclusion strategy for the U.S. while overseeing BMO's Enterprise Resource Groups in the U.S. and Canada, as well as compliance related activities. Mr. Thurman began his career at BMO Harris, spending nearly 10 years in a variety of roles

from International Trade Finance, Community Development Lending, and Branch Management and Development from 1987 to1996. Prior to re-joining BMO Harris, Mr. Thurman spent 14 years at JLL in office and retail brokerage capacities, as well as leading HR strategy for the Americas region. He also served as JLL's first Chief Diversity Officer. Mr. Thurman is very active in Chicago's civic community. He currently serves on the Governing Board of UCAN; Central Division Board member for Junior Achievement of Chicago; University of Illinois College of Business Dean's Business Council; University of Illinois College of Business Alumni Association Board; Board of Advisors, University of Illinois Alumni Association; member of the President's Council for the Museum of Science and Industry; and Commissioner, Illinois Attorney Registration and Disciplinary Commission of the Supreme Court of Illinois. Mr. Thurman holds an MBA in Management Strategy and Marketing from the Kellogg School of Management of Northwestern University and a BS in Finance from the University of Illinois, Urbana-Champaign.

Laura M. Turnquest became Executive Vice President, General Counsel and Corporate Secretary of the Bank in August 2016. Prior to that Ms. Turnquest was: Senior Vice President, Deputy General Counsel from 2007 to August 2016; Vice President, Deputy General Counsel from 2006 to 2007; and Assistant Vice President, Assistant General Counsel from 2004 to 2006. Prior to joining the Bank, Ms. Turnquest was an associate in the Banking and Finance practice at Mayer Brown LLP from 1997 to 2004.

There are no family relationships among the above executive officers or our directors.

We have adopted a code of ethics for all of our employees and directors, including our President and CEO, principal financial officer, and those individuals who perform similar functions. A copy of the code of ethics is published on our internet website and may be accessed at: http://fhlbc.com/docs/default-source/about-us-pdfs/code-of-ethics.pdf.

We intend to disclose on our website any amendments to, or waivers of, the Code of Ethics covering our President, CEO, principal financial officer, and those individuals who perform similar functions. The information contained in or connected to our website is not incorporated by reference into this annual report on Form 10-K and should not be considered part of this or any report filed with the SEC.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Item 11. Executive Compensation.

This section provides information regarding our compensation program for our 2020 named executive officers (NEOs): Matthew R. Feldman, our President and CEO during 2020; Roger D. Lundstrom, Executive Vice President & Chief Financial Officer; Michael A. Ericson, our current President and CEO (and formerly our Executive Vice President & Chief Operating Officer during 2020); John Stocchetti, Executive Vice President & Group Head, Mortgage Partnership Finance Program; and Laura M. Turnquest, Executive Vice President, General Counsel & Corporate Secretary.

Effective December 31, 2020, Mr. Feldman retired from the Bank, after having served as President and CEO since May 2008. The Board of Directors named Mr. Ericson as the Bank's President and CEO, effective January 1, 2021.

Compensation Discussion & Analysis

Compensation Program Objectives and Philosophy

Our Human Resources & Compensation Committee (the HR&C Committee) is responsible for, among other things, reviewing and making recommendations to the full Board of Directors regarding compensation and incentive plan awards for the Bank's President and CEO and assisting the Board in matters pertaining to the employment and compensation of other executive officers, our employment and benefits programs in general, and overseeing a risk assessment of our compensation policies and practices for all employees. The HR&C Committee may rely on the assistance, advice, and recommendations of the Bank's management and other advisors and may refer specific matters to other committees of the Board.

The goal of our compensation program is to set compensation at a level which allows us to attract, motivate, and retain talented executives who can enhance our business performance and help us fulfill our mission. Our compensation program is designed to reward:

- Individual performance and attainment of Bank-wide requirements and goals and business strategies on both a short-term and long-term basis;
- Fulfillment of our mission;
- Effective and appropriate management of risks, including financial, operational, market, credit, legal, regulatory, and other risks; and
- The growth and enhancement of executive leadership.

Our current compensation program is comprised of a combination of base salary, short-term incentive compensation, long-term incentive compensation, retirement, severance, and other benefits which reflect total compensation that is consistent with individual performance, business results, job responsibility levels, and the competitive market. Because we are a cooperative and our capital stock generally may be held only by members, we are unable to provide compensation to executives in the form of stock or stock options which is typical in the financial services industry.

Regulatory Oversight of Executive Compensation

The FHFA provides certain oversight of FHLB executive officer compensation. Under the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended, the FHFA Director must prohibit an FHLB from paying compensation to its executive officers that is not reasonable and comparable to that paid for employment in similar businesses involving similar duties and responsibilities. In connection with this responsibility, the FHFA has directed the FHLBs to submit all compensation actions involving named executive officers to the FHFA for prior review.

The FHFA has issued a rule setting forth requirements and processes with respect to compensation provided to executive officers by FHLBs. The rule addresses the authority of the FHFA Director to: 1) approve named executive officer agreements that provide for compensation in connection with termination of employment and 2) review the compensation arrangements of named executive officers of the FHLBs and to prohibit an FHLB from providing compensation to any named executive officer that the Director determines is not reasonable and comparable with compensation for employment in other similar businesses involving similar duties and responsibilities.

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The FHFA has also issued an advisory bulletin establishing certain principles for executive compensation at the FHLBs and the Office of Finance. These principles include that: (1) such compensation must be reasonable and comparable to that offered to executives in similar positions at comparable financial institutions; (2) such compensation should be consistent with sound risk management and preservation of the par value of FHLB stock; (3) a significant percentage of an executive's incentive-based compensation should be tied to longer-term performance and outcome-indicators and be deferred and made contingent upon performance over several years; and (4) the Board of Directors should promote accountability and transparency in the process of setting compensation. In 2020, the FHFA provided the FHLBs further guidance to supplement these principles and to clarify their expectations regarding certain statutory and regulatory provisions relevant to executive compensation. Under the Housing and Economic Recovery Act of 2008, the FHFA Director has the right to prohibit or limit golden parachute payments under certain conditions as described in **Severance Arrangements** on page 108.

The HR&C Committee has established a risk review framework in connection with its review and approval of incentive compensation plan requirements and goals, risks, and payouts. Under the framework, our Chief Risk Officer delivered a risk analysis report to our Operations and Technology Committee and the Risk Management Committee of the Board of Directors evaluating certain risk principles against the requirements and goals, risks, and payouts associated with our short-term, deferred and long-term incentive compensation plans, and evaluating whether our compensation policies and practices create risks that are reasonably likely to have a material adverse effect on the Bank. The HR&C Committee reviewed the report, along with base salary information and consultant studies (as further described below), and determined that the compensation payable to our executive officers for 2020 and 2021 was and is reasonable and comparable to that paid within the FHLB System and complies with the FHFA guidance.

Use of Compensation Consultants and Surveys

It is the intent of the HR&C Committee to set overall compensation packages at competitive market levels. In order to evaluate and maintain our desired market compensation position, the HR&C Committee reviews comparable market compensation information. We participated in the 2020 Federal Home Loan Bank System Key Position Compensation Survey. This survey, conducted by Kathy Riemer Compensation Consulting, outlines executive and non-executive compensation information for various positions across all 11 FHLBs.

We also engaged McLagan Partners, a compensation consulting firm, to conduct a broad-based compensation survey for 2020 that includes market statistics on salary, annual incentives, total cash, long-term/deferred awards, and total compensation. The survey compared executive officer compensation against three peer groups: (1) commercial banks (excluding certain large investment banks), (2) other FHLBs, and (3) named executive officers from publicly traded financial institutions with $10 billion to $20 billion in assets. McLagan reviewed the data collection and results with our Human Resources senior management so that we may understand the appropriateness of the survey comparisons adjusting for scale and scope of the survey position versus the other survey participants. Our Human Resources senior management reviews the surveys with our HR&C Committee.

The information obtained from the 2020 Federal Home Loan Bank System Key Position Survey and the 2020 McLagan Executive Compensation Benchmarking Survey (together, Compensation Surveys) was considered by the Board of Directors, the HR&C Committee, and our President and CEO, as appropriate, when making compensation decisions for 2020.

Elements of Our Compensation Program

On an annual basis, the HR&C Committee reviews the components of our NEO compensation: salary, short- and long-term incentive compensation, matching bank contributions, severance benefits, and projected payments under our retirement plans.

Base salary is included in our NEO compensation package because the HR&C Committee believes it is appropriate that a portion of the compensation be in a form that is fixed and liquid. We use the base salary element to provide the foundation of a fair and competitive compensation opportunity for each of our executive officers. We generally do not provide perquisites to our executives as part of our compensation program, and during 2020 none of our executives received perquisites in excess of $10,000 in annual value.

Performance-based compensation is split between our short-term and long-term/deferred cash incentive award opportunities, providing incentive for our NEOs to pursue particular business objectives consistent with the overall business strategies and risk management criteria set by our Board of Directors. The plans for our NEOs, although designed to reward both overall Bank performance and individual performance, are heavily weighted toward overall Bank performance.

In determining executive compensation, we have not had to consider federal income tax effects on the Bank because, by statute, we are exempt from federal income taxation.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Employment Agreements

All of our NEOs (other than the President and CEO) are at-will employees of the Bank.

The Bank entered into an employment agreement with Mr. Feldman effective January 1, 2018 (the Feldman Employment Agreement), which replaced his prior agreement that was effective January 1, 2015. The Feldman Employment Agreement provided for a three-year employment term ending December 31, 2020, unless terminated earlier as provided for in the agreement. Effective December 31, 2020, Mr. Feldman retired from the Bank.

The HR&C Committee reviewed Mr. Feldman's performance annually and following its review for the 2019 calendar year and in accordance with the Feldman Employment Agreement, the HR&C Committee recommended that the Board maintain Mr. Feldman's base salary at $987,440, to be effective January 1, 2020, after considering his performance and accomplishments during 2019 and the overall competitive market data from the Compensation Surveys, which maintains Mr. Feldman's base salary above the 90th percentile of the base salaries paid to other FHLB presidents.

The Feldman Employment Agreement allowed Mr. Feldman to participate in the Bank's President and Executive Team Incentive Compensation Plan (as amended to date, the Incentive Plan). In addition, Mr. Feldman was also entitled to participate in our health insurance, life insurance, retirement, and other benefit plans that are generally applicable to our other senior executives. Under the Feldman Employment Agreement, Mr. Feldman is responsible for the payment of all federal, state and local income and other taxes that may be due with respect to any payments made to him pursuant to the Feldman Employment Agreement, although if any provision of the Feldman Employment Agreement would cause Mr. Feldman to incur any additional tax or interest under Section 409A of the Code, then the Bank may reform such provision provided that it maintains (to the maximum extent practicable), the original intent of the applicable provision.

For a description of Mr. Feldman's post-termination compensation payable under the Feldman Employment Agreement, see **Severance Arrangements** on page 108.

On September 16, 2020, the Bank executed an employment agreement (the Ericson Employment Agreement) between the Bank and its then incoming President and CEO, Michael Ericson, effective January 1, 2021. The HR&C Committee received a non-objection letter from the FHFA regarding the material terms of the Ericson Employment Agreement on September 11, 2020. The Bank filed a Form 8-K/A on September 18, 2020 to disclose the terms of the Ericson Employment Agreement.

Base Salary

Base salary is a key component of our compensation program. In making base salary determinations, the HR&C Committee and, with respect to making compensation recommendations for the other executive officers, the President and CEO, review competitive market data from the Compensation Surveys and consider factors such as prior related work experience, individual job performance, and the position's scope of duties and responsibilities within our organizational structure and hierarchy.

The Board of Directors determines base salary for the President and CEO after it has received a recommendation from the HR&C Committee; it set Mr. Feldman's base salary at $987,440 for 2020 as described above.

On an annual basis, the President and CEO reviews the performance of the other NEOs and makes salary recommendations to the HR&C Committee. In setting base salaries for 2020, Mr. Feldman and the HR&C Committee generally considered competitive market data from the Compensation Surveys and individual performance, including the attainment of personal goals. The HR&C Committee and Mr. Feldman determined that the compensation guideline for base salaries for NEOs (other than the President and CEO) should generally target the 75th percentile of the base salaries paid to senior executives serving in similar positions at the other FHLBs. Due to the complex nature and operations of the Bank relative to the other FHLBs and the importance of retaining key members of the executive management team, salaries for certain NEOs may be targeted above the 75th percentile.

Mr. Stocchetti received a 3.00% increase in base salary for 2020 from $623,000 to $641,690, which maintains his base salary above the 85th percentile of base salaries paid to senior executives serving in similar positions at the other FHLBs and reflects the increased complexities of his job compared to those serving in similar positions at the other FHLBs and his individual performance. Mr. Ericson received a 15.16% increase in base salary effective with his promotion to Chief Operating Officer in January 2020, plus an additional 3.00% increase in base salary for 2020, which increases his base salary from $508,000 to $600,240, and brings his base salary slightly above the 75th percentile of base salaries paid to senior executives serving in similar positions at the other FHLBs. Mr. Lundstrom received a 3.00% increase in base salary for 2020 from $477,000 to $491,310, which brings his base salary to the 75th percentile of base salaries paid to senior executives serving in similar

positions at the other FHLBs. Ms. Turnquest received a 3.00% increase in base salary for 2020 from $426,000 to $438,780, which brings her base salary to the 75th percentile of base salaries paid to senior executives serving in similar positions at the other FHLBs. The new base salaries for these NEOs became effective February 1, 2020**.**

President and Executive Team Incentive Compensation Plan

Since 2013 our NEOs have participated in the Incentive Plan, which is a cash-based annual incentive plan with a deferral component that establishes individual incentive award opportunities related to achievement of performance objectives by the Bank and by participants during performance periods. The Incentive Plan provides the Bank's Executive Team, including our NEOs, the opportunity to earn incentive compensation awards based on the Bank's achievement of certain financial and performance requirements established by the Board (the Performance Requirements).

The Incentive Plan establishes two performance periods. Incentive Plan participants may earn an annual award following a one-year performance period (an Annual Award) and may receive a deferred award following a three-year deferral period (a Deferred Award). For each performance period the Board will present an opportunity to Incentive Plan participants to earn a total award (an Incentive Award), which is composed of the Annual Award and the Deferred Award, equal to a percentage of each Incentive Plan participant's annual base salary at the end of the performance period for the Annual Award. After the end of a performance period the Board will determine the total Incentive Award of the President and CEO, and the HR&C Committee will determine the total Incentive Award of each other Incentive Plan participant, based on the achievement of the Performance Requirements at a minimum, target, or maximum level. As approved by the Board (for the President and CEO) and HR&C Committee (for the other NEOs) for the 2020 - 2023 performance period, the Incentive Award may range for NEOs other than the President and CEO from 40% to 80% of base salary and from 60% to 100% of base salary for the President and CEO. The HR&C Committee has the discretion to award amounts that fall between these ranges based on an interpolation of the performance results. The Annual Award will be equal to 50% of the Incentive Award and the Deferred Award will be equal to 50% of the Incentive Award (subject to adjustment based upon achievement of certain Performance Requirements) and will be deferred during the three-year deferral period. The HR&C Committee (or the Board in the case of the President and CEO) may in its discretion increase the Incentive Award of an individual Incentive Plan participant to account for such participant's performance that is not captured in the Performance Requirements applicable to such individual.

In determining the Performance Requirements under the Incentive Plan, the HR&C Committee strives to:

(1) balance risk and financial results in a manner that does not encourage participants to expose the Bank to imprudent risks;

(2) make such determination in a manner designed to ensure that participants' overall compensation is balanced and not excessive in amount and that the awards are consistent with the Bank's policies and procedures regarding such compensation arrangements; and

(3) monitor the success of the Performance Requirements and weighting established in prior years, alone and in combination with other incentive compensation awarded to the same participants, and make appropriate adjustments in future calendar years as needed so that payments appropriately incentivize participants and reflect risk.

Performance Requirements for Annual Awards

The Incentive Award opportunity for each performance period will be based on Performance Requirements established annually by the Board (for the President and CEO) and HR&C Committee (for the other Incentive Plan participants). The Incentive Plan provides that the HR&C Committee and the Board will establish separate Performance Requirements for Annual Awards and Deferred Awards. Performance Requirements for Deferred Awards will apply during the deferral period and assessment of the achievement of Performance Requirements will be determined at the end of each deferral period.

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The Performance Requirements for the 2020 Annual Awards and applicable weighting for each requirement are as follows:

	Performance Requirements	Weighting for NEOs
A	Adjusted annual GAAP net income as compared to the Bank's operating plan at 12/31/20. Adjusted net income means annual GAAP net income adjusted by: 1) subtracting total 2020 advance prepayments fees net of related hedge costs adjusted only to exclude net amounts that would have occurred after 2020 had there been no prepayment; 2) subtracting total 2020 prepayment fees on DUS bonds net of related hedge costs and net of interest planned in 2020; 3) subtracting product of (a) monthly change in average 3-month LIBOR from Bank's operating plan average and (b) average plan total capital; 4) adding amortization in 2020 of any expense for cap and floor purchases by Bank to flatten income profile and reducing it by any payments received on the cap and floors; 5) subtracting the gain on Bank OTTI settlements net of associated legal costs; and 6) removal of hedge ineffectiveness.	10.00%
B	Total Bank operating expenses excluding MPF provider expenses capping actual incentive at target compared to Bank's planned operating expenses.	10.00%
C	Annual economic performance of the MPF Provider using the economic method for amortizing fee income compared to the 2020 Bank MPF Provider forecasted economic performance. For purposes of this measure, the expense calculation for all incentive payments will be capped at target for both the goal and actual performance.	10.00%
D	Implement process improvements that either increase member value or reduce bank costs while maintaining quality using lean six sigma or other implementation tools.	7.50%
E	As of 12/31/20, the year to date average advances outstanding to all members (including housing associates). For purposes of this measurement, certain captive insurance company member advances are excluded.	20.00%
F	As of 12/31/20, the annual percentage increase in the year to date average advances outstanding to all members under the Community Financial Institution asset threshold.	5.00%
G	The percentage of members (including housing associates) who used at least one Bank core product: advances, letters of credit, MPF products (on or off balance sheet), or Community Investment Program (AHP and DPP) grants in 2020.	5.00%
H	Each Bank team to: 1) identify their customer and understand what they need and value; 2) implement one improvement to the service they provide (e.g. lower cost of product or improve quality, as defined by customer).	7.50%
I	Implement regional failover; implement date replication in secondary cloud; and complete a 100% remote work day.	7.50%
J	Successful migration and adoption of tools that enhance modern engineering technology for better customer support.	7.50%
K	Employee participation in Diversity and Inclusion activities and engagement with colleagues.	10.00%

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The minimum, target and maximum achievement levels for each Performance Requirement for the 2020 Annual Awards (which awards are reflected in the Summary Compensation Table) along with 2020 results and the actual weighted achievement (as a percentage of base salary) are set forth in the following table:

					Actual Weighted Incentive Award as % of Salary for	
Requirement	Minimum	Target	Maximum	2020 Results	President [a]	All Other NEOs [b]
A	$(20) million	$0	$12.50 million	$95.10 million	10.00%	8.00%
B	0%	-1%	-2%	4.07%	0%	0%
C	$(1) million	$0	$1 million	$6.60 million	10.00%	8.00%
D	2 processes	3 processes	4 processes	4 processes	7.50%	6.00%
E	$41 billion	$42 billion	$43 billion	$42.47 billion	17.87%	13.87%
F	0.50%	1.00%	1.50%	25.30%	5.00%	4.00%
G	84%	86%	88%	89.50%	5.00%	4.00%
H	50%	66%	75%	58.30%	5.28%	3.78%
I	Regional failover by June 30th	Regional failover & establish backup of critical data by June 30th	Regional failover & establish backup of critical data by June 30th. Complete 100%remote work test by December 31st	Regional failover & establish backup of critical data by June 30th. Complete 100% remote work test by December 31st	7.50%	6.00%
J	Complete by November 15, 2020	Complete by October 15, 2020	Complete by September 15, 2020	Complete by October 15, 2020	6.00%	4.50%
K	75% engage in 1 activity with 1 engagement	75% engage in 1 activity with 2 engagements, or 2 activities with an engagement for each activity	90% engage in 1 activity with 2 engagements, or 2 activities with an engagement for each activity	94.50% engage in 1 activity with 2 engagements, or 2 activities with an engagement for each activity	10.00%	8.00%
				Total Actual Incentive Award as a % of Salary [c]	84.15%	66.15% [d]

[a] The percentages shown above represent the actual achievement which equates to an opportunity percentage ranging from 60% to 100% of base salary for the President (which includes interpolated amounts where performance fell between the achievement levels), multiplied by the applicable weighting for each requirement.

[b] The percentages shown above represent the actual achievement which equates to an opportunity percentage ranging from 40% to 80% of base salary for NEOs other than the President (which includes interpolated amounts where performance fell between the achievement levels), multiplied by the applicable weighting for each requirement.

[c] 50% of the Incentive Award achieved is the Annual Award, which is payable at the end of 2020, and 50% of the Incentive Award is the Deferred Award, which is payable at the end of the 2021-2023 deferral period.

[d] The HR&C Committee began with an award opportunity of 66.15% for all the NEOs other than Mr. Feldman. After considering the Bank's overall performance and each of Mr. Ericson's, Mr. Lundstrom's, Ms. Turnquest's, and Mr. Stocchetti's individual performances, the HR&C Committee increased the Incentive Award for Mr. Ericson to 72.76 % of his base salary, for Mr. Lundstrom to 71.23 % of his base salary, for Ms. Turnquest to 71.84% of her base salary, and for Mr. Stocchetti to 73.94 % of his base salary.

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Performance Requirements for Deferred Awards

2018-2020 Deferred Award (Earned for 2020)

The performance results and weighted achievement for the 2018-2020 Deferred Award (as a percentage of the initial deferred portion of the Incentive Award achieved for the 2017-2020 performance period) are set forth in the following table. This Deferred Award was earned in 2020 and is reflected in the Summary Compensation Table.

2018 - 2020 Performance Requirement Results	Actual Weighted Deferred Award as % of Deferred Award [a]
Ratio of the market value to par value of the Bank's capital stock as of 12/31/20 is 301%.	41.67 %
Maintained the three minimum regulatory capital ratios at each month end through 12/31/20.	41.67 %
Maintained positive annual net income for 2018, 2019, and 2020.	41.66 %
Deferred Award as a % of the Initial Deferred Portion of the Incentive Award Achieved for the 2017-2020 Performance Period [b]	125.00 %

[a] The percentages shown above represent the actual achievement which equates to an opportunity percentage ranging from 75% to125% of the initial deferred portion of the Incentive Award achieved for the 2017-2020 performance period (which includes interpolated amounts where performance fell between the achievement levels), multiplied by the applicable weighting for each requirement. All conditions for payment of the 2018-2020 Deferred Award were satisfied and the maximum levels were achieved for each Performance Requirement.

[b] The 2018-2020 Deferred Award is part of the Incentive Award achieved for the 2017-2020 performance period. 50% of the Incentive Award achieved is the Annual Award, which was earned in 2017, 50% of the Incentive Award achieved is the Deferred Award, which is payable following the end of 2020, and reflected in the Summary Compensation Table.

2021-2023 Deferred Award (Part of 2020 Incentive Award)

The minimum, target, and maximum achievement levels for each Performance Requirement for the Deferred Award for the 2021-2023 deferral period along with the applicable weightings for each requirement are set forth in the following table.

	Performance Requirements	Weighting for all NEOs [a]	Minimum	Target	Maximum
A	Ratio of the market value of equity to outstanding capital stock as of 12/31/23	33.34%	>100%	>105%	>150%
B	Maintain the three minimum regulatory capital ratios at each month end through 12/31/23	33.33%	At least 104 capital requirements	At least 106 capital requirements	All 108 capital requirements
C	Maintain positive quarterly net income during 2021, 2022 and 2023	33.33%	In 10 of 12 quarters	In 11 of 12 quarters	In all 12 quarters

[a] If the composite exam rating remains the same as the level at 12/31/19 or improves during 2021, 2022, or 2023, the Deferred Award paid will be at 100% of applicable weighting for each Performance Requirement above. If the composite exam rating declines during any of 2021, 2022, or 2023 from the level at 12/31/19 then the calculation based on actual achievement of the Performance Requirements for the Deferred Awards will reflect a reduction of 33% in the weightings of each Performance Requirement above.

The HR&C Committee may, in its discretion, reduce or eliminate an Annual Award or a Deferred Award for any applicable performance period under any of the following circumstances: (1) the Bank receives the lowest or second-lowest cumulative rating in its FHFA examination in any calendar year in a particular performance period; (2) the Board determines that a material safety and soundness problem has occurred, or a material risk management deficiency exists at the Bank, or if (a) operational errors or omissions result in material revisions to the Bank's financial results, information submitted to the FHFA, or to data used to determine Incentive Awards, (b) submission of material information to the Securities and Exchange Commission, the Office of Finance, or the FHFA is materially beyond any deadline or applicable grace period, or (c) the Bank fails to make sufficient progress, as determined by the Board, in the timely remediation of significant examination, monitoring, or other supervisory findings; (3) a Deferred Award may be reduced for each year during the deferral period in which the Bank has negative net income; or (4) with respect to an individual Incentive Plan participant only, (a) such Incentive Plan participant receives an unsatisfactory job performance appraisal, either during a performance period or at the scheduled time of an Incentive Award payout, (b) such Incentive Plan participant becomes subject to any disciplinary action at the scheduled time of an Incentive Award payout, or (c) such Incentive Plan participant fails to comply with regulatory requirements or standards, internal control

standards, the standards of his or her profession, any internal Bank standard, or fails to perform responsibilities assigned to such Incentive Plan participant under the Bank's strategic business plan.
The amount of the Deferred Award may increase or decrease based on the level of achievement of the Performance Requirements during the deferral period. For the 2020 - 2023 performance period, the amount of the Deferred Award as approved by the Board for each participant can range from 75% to 125% of the initial deferred portion of the Incentive Award as determined at the end of the initial performance period. The HR&C Committee has the discretion to award amounts that fall between these ranges based on an interpolation of the performance results.

Incentive Plan participants are paid their respective Incentive Awards, if any, in cash following the initial and deferred performance periods, provided that they are actively employed by the Bank at the end of the performance period. If a participant dies, becomes disabled, retires, terminates employment for good reason or a change of control occurs, the participant shall be eligible to receive, unless he participates in any activity constituting cause, (a) a pro-rated incentive award for the current performance period based on how long he was employed with the Bank during the year (excluding any period of disability in excess of three months), and (b) all Deferred Awards previously granted. Incentive Plan participants may elect to defer some or all of an Incentive Award under our Benefit Equalization Plan. For a description of the terms of the Benefit Equalization Plan see **Benefit Equalization Plan** on page 110. For Mr. Feldman's payments under the Incentive Plan upon termination of his employment, see **Severance Arrangements** below.

See **President and Executive Team Incentive Compensation Plan** on page 113 for the awards made to the NEOs under this plan.

Post-Termination Compensation

Severance Arrangements

Our NEOs (other than the President and CEO) are eligible to receive severance benefits under our Employee Severance Plan. Under the plan, if an NEO covered by the plan were to be terminated other than for cause or through voluntarily termination of their employment because of a constructive discharge, that NEO would be entitled to receive the greater of: (1) four weeks' base salary for each full year of calendar service, but not to exceed 104 weeks; or (2) one year's base salary, subject to certain limits. In addition, we will make the Bank's portion of the COBRA payments required to continue health insurance benefits for a time period generally equal to the number of weeks of pay such employee is entitled to receive (not to exceed the statutory COBRA continuation period). Payments under the Employee Severance Plan shall be made during the payment period (as defined in such plan) with the regular payroll schedule of the Bank. An NEO's receipt of benefits under the Employee Severance Plan is conditioned on an executed general release waiving all claims against the Bank.

Under the Feldman Employment Agreement, in the event Mr. Feldman's employment with the Bank was terminated by him through retirement (as defined in the Feldman Employment Agreement), Mr. Feldman is entitled to receive the following payments and benefits:

(1) all accrued and unpaid salary for time worked as of the date of termination;

(2) all accrued but unutilized vacation time as of the date of termination;

(3) payment of the incentive compensation he would have otherwise been entitled to for:

   i. the total Incentive Award (both Annual Award and Deferred Award) under the Incentive Plan for the year in which termination occurs, calculated as if all performance targets for the current annual and deferral award period had been met at the target award level and prorated based on the number of full months Mr. Feldman was employed during the year of termination, divided by 12, and

   ii. any previously deferred award (50% of the total Incentive Award) under the Incentive Plan not subject to proration or further adjustments based on performance target achievement during the deferral period;

provided, however that the HR&C Committee may, in its discretion, reduce or eliminate any incentive compensation amounts paid under this item (3) for any of the circumstances set forth in Section 5.3(b)(1)-(3) or (5) the Incentive Plan, as applicable,

(4) an additional amount under the Bank's Benefit Equalization Plan equal to the additional annual benefit under Section 3.01 of the Benefit Equalization Plan, with such benefit calculated as if: (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, and (iii) the BEP continued in effect without change in accordance with its terms as in effect on the date immediately preceding Mr. Feldman's

date of termination (the "Feldman BEP Amount", as further described in the **Retirement and Other Post-Employment Compensation Table and Narrative** on page 114, and

(5) participation in the Bank's retiree health care benefit plans for Mr. Feldman and his spouse, in accordance with the terms of the Federal Home Loan Bank of Chicago Description of Retiree Medical Coverage.

If Mr. Feldman's employment with the Bank is terminated by resignation (as described in the Feldman Employment Agreement), Mr. Feldman will be entitled to the payments in items (1) through (4) above. If Mr. Feldman's employment with the Bank is terminated by the Board for Cause (as defined in the Feldman Employment Agreement), Mr. Feldman will be entitled only to the amounts in items (1) and (2) above. If Mr. Feldman's employment with the Bank is terminated by reason of death or disability, or by the Bank other than for Cause, Mr. Feldman will be entitled to the payments in items (1) through (4) above, as well as salary continuation (at the base salary in effect at the time of termination) for a period of one year, and continued participation in the Bank's employee health care benefit plans for Mr. Feldman and his spouse, in accordance with the terms of the Bank's severance plan that would be applicable if Mr. Feldman's employment had been terminated pursuant to such plan (provided, however, the Bank shall continue paying the employer's portion of Mr. Feldman's medical and/or dental insurance premiums, if Mr. Feldman participates in either or both programs for one year.)

The Feldman Employment Agreement specifies that the HR&C Committee may in its discretion reduce or eliminate any incentive compensation amounts in item (3) above for certain circumstances as more fully set forth in the Incentive Plan, and as summarized in **Performance Requirements for Deferred Awards** on page 107.

The Feldman Employment Agreement provides that Mr. Feldman would not be entitled to any other compensation, bonus, incentive, or severance pay from the Bank other than as specified above and any vested rights which he has under any pension, thrift, or other benefit plan, excluding the severance plan, and, in the instance of termination by any means other than for Cause, the Benefits Equalization Plan.

The right to receive certain termination payments as outlined above is contingent upon, among other things, Mr. Feldman signing a general release of all claims against the Bank in such form as the Bank requires.

Under the Housing and Economic Recovery Act of 2008, the FHFA Director has the authority to prohibit or limit any golden parachute or indemnification payment by an FHLB. FHFA rules on golden parachute payments sets forth the standards the FHFA would take into consideration when limiting or prohibiting golden parachute and indemnification payments by an FHLB when the FHLB is in a troubled condition, in conservatorship or receivership, or insolvent. FHFA rules also generally prohibit an FHLB and the OF from making indemnification payments to any officer, director, employee or other affiliated party to pay or reimburse such person for any liability of legal expense in connection with an administrative proceeding or civil action initiated by the FHFA.

As previously disclosed, Mr. Feldman retired from the Bank on December 31, 2020.

For a further description of potential payments to our NEOs upon termination of employment, see **Potential Payments Upon Termination Table** on page 116.

Pension Plan Benefits

The HR&C Committee believes that retirement plan benefits and retiree health and life insurance are an important part of our NEO compensation program which provides a competitive benefits package. The Pentegra Defined Benefit Plan for Financial Institutions (Pension Plan) and related Benefit Equalization Plan benefits serve a critically important role in the retention of our senior executives (including our NEOs), as benefits under these plans increase for each year that these executives remain employed by us and thus encourage our most senior executives to remain employed by us. We provide additional retirement and savings benefits under the Benefit Equalization Plan because we believe that it is inequitable to limit retirement benefits and the matching portion of the retirement savings plan on the basis of a limit that is established by the IRS for purposes of federal tax policy.

We participate in the Pentegra Financial Institutions Retirement Fund, a multiemployer, funded, tax-qualified, noncontributory defined-benefit pension plan that covers most employees, including the NEOs. Benefits under this Pension Plan are based upon the employee's years of service and the employee's consecutive five-year average highest earnings, and are payable after retirement in the form of an annuity or a lump sum. Earnings, for purposes of the calculation of benefits under the Pension Plan, are defined to include salary and bonuses under the applicable short-term incentive plan. The amount of annual earnings that may be considered in calculating benefits under the Pension Plan is limited by law. For 2020, the limitation on annual earnings was $285,000. In addition, benefits provided under tax-qualified plans may not exceed an annual benefit limit of $230,000 in 2020.

The formula for determining the normal retirement annual benefit for employees hired prior to January 1, 2010 is 2.25%, multiplied by the number of years of the employee's credited service, multiplied by the employee's consecutive five-year average highest earnings. An employee's retirement benefit vests 20% per year beginning after an employee has completed two years of employment, but is completely vested at age 65 regardless of completed years of employment. Normal retirement age is 65, but a reduced benefit may be elected in connection with early retirement beginning at age 45. All of the NEOs are currently eligible for the early retirement benefit. We also provide health care and life insurance benefits for retired employees of which they pay 50% of the total Bank premium for each benefit.

Savings Plan Benefits

During 2019, we participated in the Pentegra Defined Contribution Plan for Financial Institutions (Savings Plan), a tax-qualified, defined-contribution savings plan. Effective January 15, 2020, we changed administrators for the Savings Plan to Empower. Under the Savings Plan, employees, including our NEOs, may contribute up to 50% of regular earnings on a before-tax basis to a 401(k) account or on an after-tax basis to a Roth Elective Deferral Account or a regular account. In addition, for employees who have completed one year of service, the Bank matches a portion of the employee's contribution to the Savings Plan (50% for employees with three years of service or less, 75% for employees with more than three years of service but less than five years of service, and 100% for employees with five or more years of service). For 2020, our matching contribution was limited to $17,100 for each employee.

The Bank's matching contributions to the Savings Plan vests incrementally based on years of employment, with 100% vesting after six years of employment. Pursuant to IRS rules, and effective for 2020, the Savings Plan limits the annual additions that can be made to a participating employee's account to $57,000 per year. Annual additions include our matching contributions and employee contributions. Of those annual additions, the current maximum before-tax contribution by an employee to a 401(k) account is $19,500 per year. In addition, no more than $285,000 of annual compensation may be taken into account in computing benefits under the Savings Plan. Participants age 50 and over are eligible to make catch-up contributions of up to $6,500 per year. Generally, Savings Plan distributions can only be made at termination of employment. However, an employee may take a withdrawal of employee and employer plan contributions while employed, but an excise tax of 10% is generally imposed on the taxable portion of withdrawals occurring prior to an employee reaching age 59 1/2. Employees may also take one loan each year from the vested portion of the Regular, Roth Elective Deferral and 401(k) Savings Plan accounts. Loan amounts may be between $1,000 and $50,000. No more than 50% of the available balance can be borrowed at any time.

Benefit Equalization Plan

We also provide supplemental retirement and savings plan benefits under our Benefit Equalization Plan, a nonqualified unfunded plan that preserves the level of benefits which were intended to be provided under our Pension Plan and Savings Plan in light of legislation limiting benefits under these tax qualified plans. The Benefit Equalization Plan was established in 1994. On December 19, 2008, our Board of Directors approved a new plan, the Federal Home Loan Bank of Chicago Post December 31, 2004 Benefit Equalization Plan, that replaces the former plan. The new plan includes updated provisions related to compliance with Section 409A of the Internal Revenue Code of 1986, but the basic benefits under the plan remain unchanged.

Our Benefit Equalization Plan provides that if an executive officer dies, retires, or terminates employment due to disability when any short-term incentive compensation that was previously earned but deferred in accordance with the deferral provisions of any of the Bank’s incentive compensation plans, we will recalculate the officer’s pension benefits in order to adjust for the fact that such short-term incentive compensation would not otherwise be included in the officer’s base compensation for purposes of calculating pension benefits at the time the executive officer dies, retires, or terminates employment due to disability. We will recalculate the officer’s pension benefit as if such deferred amounts had been included in the executive officer’s base compensation and the difference between that calculation and the amount to which the retired, deceased or disabled officer is entitled to under the Benefit Equalization Plan as a result of such calculation will be paid in a lump sum.

The Pension Plan benefit under the Benefit Equalization Plan is an amount equal to the difference between the Pension Plan formula without considering legislative limitations, and the benefits which may be provided under the Pension Plan considering such limitations. Generally, participants may elect when Pension Plan benefits under the Benefit Equalization Plan are paid, but not earlier than termination of employment or later than age 70 1/2. Generally, participants may elect to receive a benefit in the form of a single lump sum, a 50% joint and survivor annuity, a 100% joint and survivor annuity with a ten-year certain benefit or a life annuity with a ten-year certain benefit.

The Benefit Equalization Plan also allows employees to make additional salary reduction contributions up to the maximum percentages allowed under the Savings Plan and to receive matching contributions up to the maximum percentages under the Savings Plan, in each case without giving effect to laws limiting annual additions. Salary reduction contributions and earnings

under the Benefit Equalization Plan are treated as deferred income. Effective January 1, 2014, Savings Plan related contributions and earnings in the Benefit Equalization Plan earn interest at the 20 quarter (five year) moving average of the five year Federal Home Loan Bank consolidated obligation bond rate. Generally, a participant's Savings Plan benefit under the Benefit Equalization Plan are payable in lump sum as soon as reasonably practicable after his termination of employment with the Bank. While employed at the Bank, a participant may, in the event of an unforeseeable emergency, request withdrawal from his or her Savings Plan account, and such request shall be made in a time and manner determined by the HR&C Committee.

Compensation Committee Report

Our Board of Directors has established the HR&C Committee to assist it in matters pertaining to the employment and compensation of the President and CEO, executive officers and our employment and benefits programs in general.

The HR&C Committee is responsible for making recommendations to the Board of Directors regarding the compensation of the President and CEO and approving the compensation of the other executive officers, including base salary, merit increases, incentive compensation and other compensation and benefits. Its responsibilities include reviewing our compensation strategy and its relationship to our goals and objectives, as well as compensation at the other FHLBs and other similar financial institutions that involve similar duties and responsibilities.

The HR&C Committee has reviewed and discussed with our management the Compensation Discussion & Analysis included in this Item 11 - Executive Compensation. In reliance on such review and discussions, the HR&C Committee recommended to the Board of Directors that such Compensation Discussion and Analysis be included in our Annual Report on Form 10-K for the year ended December 31, 2020.

The HR&C Committee:

Michelle L. Gross, Chairperson
Phyllis Lockett, Vice Chairperson
James T. Ashworth
James H. Hegenbarth
Michael G. Steelman
John K. Reinke, ex officio

FHLB Chicago | Federal Home Loan Bank of Chicago

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Compensation Tables

Summary Compensation Table

The following table sets forth summary compensation information for our NEOs for 2020.

Summary Compensation Table

	Year	Salary	Non-Equity Incentive Plan Compensation		Change in Pension Value [b]	All Other Compensation [c]	Total
			Annual Award	Deferred Award [a]			
Matthew R. Feldman [d]	**2020**	**$ 987,440**	**$ 415,444**	**$ 559,550**	**$ 1,529,000**	**$ 18,100**	**$ 3,509,534**
President and Chief Executive Officer	2019	987,440	488,783	498,657	1,678,000	16,800	3,669,680
	2018	940,420	436,026	508,194	575,000	16,500	2,476,140
Roger D. Lundstrom	**2020**	**490,118**	**174,990**	**205,390**	**2,286,000**	**18,100**	**3,174,598**
Executive Vice President and Chief Financial Officer	2019	477,000	188,415	197,758	2,031,000	16,800	2,910,973
	2018	462,000	168,007	179,205	172,000	16,500	997,712
Michael A. Ericson [e]	**2020**	**592,554**	**218,368**	**248,630**	**1,294,000**	**18,100**	**2,371,652**
Executive Vice President and Chief Operating Officer	2019	508,000	220,726	227,421	917,000	16,800	1,889,947
	2018	492,000	205,000	181,963	89,000	16,500	984,463
John Stocchetti	**2020**	**640,133**	**237,225**	**272,600**	**1,131,000**	**15,250**	**2,296,208**
Executive Vice President and Group Head, Mortgage Partnership Finance Program	2019	623,000	270,694	257,341	1,229,000	16,800	2,396,835
	2018	604,000	250,000	283,291	339,000	16,500	1,492,791
Laura M. Turnquest	**2020**	**437,715**	**157,617**	**206,741**	**1,031,000**	**18,100**	**1,851,173**
Executive Vice President, General Counsel and Corporate Secretary	2019	426,000	168,270	166,349	852,000	16,800	1,629,419
	2018	409,000	170,000	159,056	214,000	16,500	968,556

[a] All amounts earned for all NEOs reflect the Deferred Award under the Incentive Plan.

[b] The amount reported in this column for 2020 represents the aggregate change in the actuarial present value of the NEO's accumulated benefit under the Pension Plan and BEP from December 31, 2019 to December 31, 2020. For 2020, the change in value resulted primarily from the continued low interest rate environment, with larger impacts on the younger NEOs.

[c] Amounts reported for all other compensation consists of Bank contributions to employee 401(k) and BEP plans. Additionally, the amounts reported include a $1,000 stipend paid to all Bank employees in March 2020 to assist with the costs of equipment and other items relating to remote working.

[d] Mr. Feldman served as the Bank's President and Chief Executive Officer until his retirement on December 31, 2020.

[e] The Board of Directors named Mr. Ericson President and Chief Executive Officer of the Bank, effective January 1, 2021.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Narrative to Summary Compensation Table

Compensation under the heading Annual Award in the Summary Compensation Table is comprised of the Annual Awards under the Incentive Plan. Compensation under the heading Long Term Award in the Summary Compensation table is comprised of Deferred Awards under the Incentive Plan.

President and Executive Team Incentive Compensation Plan

Annual Awards for 2020 to the NEOs under the Incentive Plan are set forth below. For a description of how these awards were calculated see **President and Executive Team Incentive Compensation Plan** on page 104.

Name	Base Salary	Actual Annual Award as a % of Salary [a]	Actual Annual Award
Matthew R. Feldman	$ 987,440	42.07%	$ 415,444
Roger D. Lundstrom	491,310	35.62%	174,990
Michael A. Ericson	600,240	36.38%	218,368
John Stocchetti	641,690	36.97%	237,225
Laura M. Turnquest	438,780	35.92%	157,617

[a] 50% of the Incentive Award achieved as a percentage of base salary is the Annual Award for 2020.

Deferred Awards for the 2018-2020 performance period to the NEOs under the Incentive Plan are set forth below. For a description of how these awards were calculated see **President and Executive Team Incentive Compensation Plan** on page 104**.**

Name	Deferred Award [a]	Actual Award Percentage [b]	Actual Deferred Award
Matthew R. Feldman	$ 447,640	125%	$ 559,550
Roger D. Lundstrom	164,312	125%	205,390
Michael A. Ericson	198,904	125%	248,630
John Stocchetti	218,080	125%	272,600
Laura M. Turnquest	165,393	125%	206,741

[a] Represents the initial deferred portion of the Incentive Award achieved for the 2018-2020 performance period.
[b] Represents the earned percentage of the initial deferred portion of the Incentive Award achieved for the 2017-2020 performance period.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Grants of Plan-Based Awards

The following table describes the potential NEO awards under the Incentive Plan for the plan period covering January 1, 2020, through December 31, 2023. See **President and Executive Team Incentive Compensation Plan** starting on page 104 for a description of the performance criteria under this plan.

		Estimated Future Payouts under Non-Equity Incentive Plan Awards		
Name	Incentive Plan [a]	Minimum	Target	Maximum
Matthew R. Feldman	Annual	$ 296,232	$ 394,976	$ 493,720
	Deferred	311,583	415,444	519,305
Roger D. Lundstrom	Annual	98,262	147,393	196,524
	Deferred	131,243	174,990	218,738
Michael A. Ericson	Annual	120,048	180,072	240,096
	Deferred	163,776	218,368	272,960
John Stocchetti	Annual	128,338	192,507	256,676
	Deferred	177,919	237,225	296,532
Laura M. Turnquest	Annual	87,756	131,634	175,512
	Deferred	118,213	157,617	197,021

[a] Annual: Annual Award under the Incentive Plan. The amounts shown are based on the potential awards for each NEO for 2020. Annual awards granted in 2020 were earned in the same year; for such amounts actually earned, please see the Summary Compensation Table. Deferred: Deferred Award under the Incentive Plan. The amounts shown reflect the actual Deferred Awards granted for 2021-2023 based on actual performance for 2020. The Deferred Awards remain subject to adjustment based upon achievement of certain Performance Requirements during the 2021-2023 deferral period and may be reduced to zero if actual achievement is below the minimum achievement level for those Performance Requirements.

Retirement and Other Post-Employment Compensation Table and Narrative

Name	Plan Name	Years Credited Service	Present Value of Accumulated Benefit	Payments During Last Fiscal Year
Matthew R. Feldman [a]	Pension	16.75	$ 1,691,000	$ —
	BEP	16.75	12,146,000	—
Roger D. Lundstrom	Pension	36.33	2,904,000	—
	BEP	36.33	6,959,000	—
Michael A. Ericson	Pension	15.42	1,109,000	—
	BEP	15.42	2,482,000	—
John Stocchetti	Pension	13.75	1,402,000	—
	BEP	13.75	3,851,000	—
Laura M. Turnquest	Pension	15.75	1,382,000	—
	BEP	15.75	1,974,000	—

[a] At December 31, 2020, the additional present value of accrued benefits due Mr. Feldman under section (7)(b)(iv) of his Employment Agreement is $3,281,000 (the Feldman BEP Amount). The Feldman BEP Amount is included in the BEP present value of accumulated benefit total shown in this table. Mr. Feldman retired effective December 31, 2020 and is entitled to his benefits under the Pension Plan and the Pension Plan component of the BEP.

Our NEOs are entitled to receive retirement benefits through the Pension Plan and the Benefit Equalization Plan. See **Post-Termination Compensation** on page 108. The present value of the current accumulated benefit, with respect to each NEO under both the Pension Plan and the Benefit Equalization Plan, described in the table above is based on certain assumptions described below.

The participant's accumulated benefit is calculated as of December 31, 2020 and 2019. Under the Pension Plan, which is a qualified pension plan, the participant's accumulated benefit amount as of these calculation dates is based on the plan formula, ignoring future service periods and future salary increases during the pre-retirement period. The present value is calculated using the accumulated benefit at each date multiplied by a present value factor based on an assumed age 65 retirement date. As of December 31, 2019, 55% of the Pension Plan benefit is valued using the PRI-2012 mortality table for white collar worker

annuitants (with mortality improvement scale MP-2019) and 45% of the Pension Plan benefit is valued using the IRS applicable mortality table for lump sums projected to 2019. As of December 31, 2020, 55% of the Pension Plan benefit is valued using the PRI-2012 mortality table for white collar worker annuitants (with mortality improvement scale MP-2020) and 45% of the Pension Plan benefit is valued using the IRS Applicable mortality table for lump sums projected to 2020. The interest rates used are 3.22% as of December 31, 2019 and 2.52% as of December 31, 2020.

The present value amount discounted back to reporting period does not factor in the mortality table. The difference between the present value of the December 31, 2020 accumulated benefit and the present value of the December 31, 2019 accumulated benefit is the change in pension value for the qualified plan presented in the Summary Compensation Table.

Benefits provided under the qualified plan are limited under the Employee Retirement Income Security Act (ERISA). As a result, the Benefit Equalization Plan, which is a nonqualified plan, is designed to provide benefits above the amount allowed under ERISA. The benefits provided under the Benefit Equalization Plan are initially calculated on a gross basis to include benefits provided by the qualified plan. The benefits under the qualified plan are then deducted from the initially calculated gross amount to arrive at the amount of benefits provided by the Benefit Equalization Plan. The participant's accumulated benefit amounts as of these calculation dates are based on plan formula, ignoring future service periods and future salary increases. The present value is calculated by multiplying the benefits accumulated at each date by a present value factor based on an assumed age 65 retirement date. As of December 31, 2019, the Benefit Equalization Plan benefit is valued using the PRI-2012 mortality table for white collar worker annuitants (with mortality improvement scale MP-2019). As of December 31, 2020, the Benefit Equalization Plan benefit is valued using the PRI-2012 mortality table for white collar worker annuitants (with mortality improvement scale MP-2020). The interest rates used are 2.79% as of December 31, 2019 (participants who elected a lump sum as their form of benefit from the Benefit Equalization Plan have their lump sum amounts at age 65 valued at 3.22%, then discounted back to current age at 2.79%) and 1.76% as of December 31, 2020 (participants who elected a lump sum as their form of benefit from the Benefit Equalization Plan have their lump sum amounts at age 65 valued at 2.52%, then discounted back to current age at 1.76%).

The difference between the present value of the December 31, 2020 accumulated benefit and the present value of the December 31, 2019 accumulated benefit is the change in pension value for the nonqualified plan presented in the Summary Compensation Table.

The difference in the interest rates used for the assumptions under the Pension Plan and the Benefit Equalization Plan is due to the Pension Plan being a multi-employer plan and the experience/assumptions under that plan versus our Benefit Equalization Plan being a single employer plan.

Nonqualified Deferred Compensation Table

Name	Plan Name [a]	Executive Contributions in Last FY [b]	Registrant Contributions in Last FY [c]	Aggregate Earnings in Last FY [d]	Aggregate Withdrawals/ Distributions	Aggregate Balance of All Plans at Last FYE [e]
Matthew R. Feldman [f]	BEP	$ 22,217	$ —	$ 13,152	$ —	$ 700,325
Roger D. Lundstrom	BEP	70,012	9,802	20,072	—	1,088,761
Michael A. Ericson	BEP	21,979	274	2,285	—	135,191
John Stocchetti	BEP	111,614	—	28,928		1,511,055
Laura M. Turnquest	BEP	263	—	130	—	6,984

[a] The table above includes salary reduction contributions by our NEOs, and matching contributions by the Bank under the Savings Plan benefit under the Benefit Equalization Plan (BEP). For a description of the BEP, see **Benefit Equalization Plan** on page 110.

[b] Represents the amounts of the contributions made by each NEO. These amounts are reflected in the "Salary", “Annual Award” and “Deferred Award” columns of the Summary Compensation Table.

[c] Represents the amounts of the contributions made by the Bank for each NEO under the Savings Plan benefit under the BEP. These amounts are reflected in the “All Other Compensation” column of the Summary Compensation Table.

[d] Not included in 2020 compensation as rate paid was not above a market rate.

[e] The aggregate balance at December 31, 2020, as reported above, includes amounts that are either currently reported or were previously reported as compensation in the Summary Compensation Table for 2020 and prior years for the NEOs to the extent they were NEOs in such years, except for the aggregate earnings on deferred compensation to the extent such compensation was not above market rate.

[f] Mr. Feldman retired effective December 31, 2020 and is entitled to his benefits under the Savings Plan component of the BEP.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Potential Payments Upon Termination Table

Name	Severance	President and Executive Team Incentive Plan	Health Care	Total
Matthew R. Feldman	$ 987,440	$ 2,315,247	$ 10,930	$ 3,313,617
Roger D. Lundstrom	982,620	911,793	27,094	1,921,507
Michael A. Ericson	738,757	1,111,092	21,073	1,870,922
John Stocchetti	691,051	1,267,744	18,063	1,976,858
Laura M. Turnquest	540,037	860,245	21,073	1,421,355

The table above and the narrative below outline payments that our NEOs would be entitled to receive in connection with their termination of employment as of December 31, 2020. Due to the number of factors that affect the nature and amounts of compensation and benefits provided upon the potential termination events discussed, the actual amounts paid or distributed may be different.

In accordance with SEC rules, we include for Mr. Feldman disclosure of certain termination of employment scenarios as of December 31, 2020, although as previously disclosed, Mr. Feldman retired from the Bank effective December 31, 2020. Pursuant to the Feldman Employment Agreement, upon retirement, Mr. Feldman is entitled to: the payments under the Incentive Plan (as estimated in the “President and Executive Team Incentive Plan” column in the table above using assumptions described below), his benefits under the Pension Plan, the Savings Plan, and the BEP (including the Feldman BEP Amount), and participation in the Bank’s retiree health care benefit plans for him and his spouse, in accordance with the terms of the Federal Home Loan Bank of Chicago Description of Retiree Medical Coverage.

For Mr. Feldman, the table above outlines termination under the following conditions in accordance with the Feldman Employment Agreement: by reason of death or disability or by the Bank other than for Cause (each as defined in the Feldman Employment Agreement). For purposes of calculating the benefits outlined in the table above, we have also assumed that Mr. Feldman would continue to receive Bank-subsidized health care coverage. For Mr. Feldman, the amounts reflected in the “President and Executive Team Incentive Plan” column in the table above include the following awards under the Incentive Plan: the earned 2020 Annual Award and the Deferred Awards for the following performance periods: 2018-2020 (as earned); 2019-2021(assuming target performance); 2020-2022(assuming target performance); and 2021-2023 (assuming target performance). In addition to the amounts outlined above, pursuant to the Feldman Employment Agreement, Mr. Feldman would be entitled to the Feldman BEP Amount in the event of termination by reason of death or disability or by the Bank other than for Cause.

Pursuant to the Feldman Employment Agreement, if Mr. Feldman’s employment with the Bank is terminated by resignation, he would be entitled to the payments set forth in the “President and Executive Team Incentive Plan” column above, as well as the Feldman BEP Amount.

For the other NEOs, the table above outlines termination under the following conditions in accordance with the Employee Severance Plan: without cause or as a result of constructive discharge (each as defined in the Employee Severance Plan). In addition, we assumed termination was not for cause as defined in the Incentive Plan, that their severance payments do not exceed the limits set forth in the Employee Severance Plan, and that they continue to receive Bank-subsidized health care coverage if the NEO was enrolled in the Bank’s health care benefit plan during 2020. For the other NEOs, the amounts reflected in the “President and Executive Team Incentive Plan” column in the table above include the following awards under the Incentive Plan: the 2020 Annual Award (as earned) and the Deferred Awards for the following performance periods: 2018-2020 (as earned); 2019-2021 (assuming target performance); 2020-2022 (assuming target performance); and 2021-2023 assuming target performance).

Additionally, under the Incentive Plan, assuming termination at December 31, 2020, the same awards as set forth under the “President and Executive Team Incentive Plan” column in the table above would be available to the NEOs (excluding Mr. Feldman, whose Feldman Employment Agreement outlines all possible termination scenarios) in the event they terminate employment for any reason, including as set forth in the immediately following sentence. Under the Incentive Plan, the 2020 Annual Award and the 2018-2020, 2019-2021, 2020-2022, and 2021-2023 Deferred Awards as reflected in the table above will also be available to these NEOs in the event they die, become disabled, retire, terminate employment for good reason, or a change of control occurs (as such terms are defined in the Incentive Plan) at December 31, 2020, assuming they did not participate in any activity constituting cause (as defined in the Incentive Plan).

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

For further details on payments due upon these circumstances to the NEOs, see **Severance Arrangements** on page 108. In other termination scenarios, including the death or disability or retirement of the NEOs, our NEOs would be entitled to receive benefits generally available to other employees (although for Mr. Feldman, the Feldman Employment Agreement as described on page 103 outlines all possible benefits he is entitled to receive). The narrative disclosure and tables above describe and quantify the compensation and benefits that are paid in addition to compensation and benefits generally available to other employees. Examples of compensation and benefits generally available to other employees, and thus not included above, are distributions under the Savings Plan, disability and life insurance benefits to the extent such employee has paid for such benefits, health and life insurance benefits, and amounts for accrued and unpaid salary and vacation.

For more information on the Pension Plan and the BEP, see **Retirement and Other Post-Employment Compensation Table and Narrative** on page 114 and the **Nonqualified Deferred Compensation Table** on page 115, as well as **Pension Plan Benefits** on page 109 and **Benefit Equalization Plan** on page 110.

Pay Ratio

As required by Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and Item 402(u) of Regulation S-K, we are providing the following information about the relationship of the median of the annual total compensation of our employees and the annual total compensation of Mr. Feldman, our President and CEO in 2020:

For 2020, the median of the annual total compensation of all employees of the Bank (other than Mr. Feldman) (the Median Employee) was $165,069 and the annual total compensation of Mr. Feldman was $3,509,534. Annual total compensation for the Median Employee and Mr. Feldman is calculated in the same manner as the “Total” column in the **Summary Compensation Table** on page 112. Based on this information, for 2020, the ratio of the annual total compensation of Mr. Feldman to the Median Employee was 21.26 to 1.

We identified the Median Employee by comparing the amount of base salary (including overtime), incentive awards, and Savings Plan and BEP plans contributions made by the Bank, for each of the employees who were employed by the Bank on December 31, 2020, and ranking the total compensation for all such employees from lowest to highest, excluding Mr. Feldman. We identified the Median Employee using this compensation measure, which was applied consistently to all our employees included in the calculation. We included all full-time and part-time employees in the identification of the Median Employee and annualized the compensation for all permanent employees who were not employed by us for all of 2020.

Because the SEC rules for identifying the median of the annual total compensation of our employees and calculating the pay ratio based on that employee’s annual total compensation allow companies to adopt a variety of methodologies, to apply certain exclusions, and to make reasonable estimates and assumptions that reflect their employee populations and compensation practices, the pay ratio reported by other companies may not be comparable to the pay ratio for our Bank, as other companies have headquarters or offices in different states and countries, have different employee populations and compensation practices and may utilize different methodologies, exclusions, estimates and assumptions in calculating their pay ratios.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

Director Compensation

The goal of our policy governing compensation and travel reimbursement for our Board of Directors is to compensate members of the Board of Directors for work performed on our behalf and to make them whole for out-of-pocket travel expenses incurred while working for the Bank. The fees compensate Directors for their time preparing for and attending in-person and telephonic meetings, attending Bank-sponsored member meetings and events, attending Community Investment Advisory Council meetings, attending FHLB System meetings, Board of Directors training, activities that provide information pertinent to the Bank or service on the Board of Directors that are learning opportunities and other activities related to service on the Board of Directors. Director compensation levels are established at the discretion of each FHLB's Board of Directors, provided that the fees are reasonable. In connection with setting director compensation, we participated in an FHLB System review of director compensation in May 2019 which includes a director compensation study prepared by McLagan Partners. The McLagan study includes separate analysis of director compensation at publicly traded banks with between $10 billion and $20 billion in assets and the FHLBs.

Our Board of Directors set compensation levels for 2020 as follows:

Position	Maximum Total Annual Compensation
Chairperson of the Board	$ 145,000
Vice Chairperson of the Board	130,000
Chairperson of the Audit Committee	130,000
Other Committee Chairperson	117,000
All other Directors	105,000

Each director will be paid one quarter of their maximum annual compensation following the end of each quarter. In the event a director serves on the Board for only a portion of a calendar year, or only serves as Chairperson, Vice Chairperson, or Committee Chairperson for a portion of a calendar year, such director’s maximum annual compensation shall be adjusted accordingly on a pro-rata basis. If a director does not fulfill his or her responsibility by failing to meet certain performance and attendance criteria set forth in the policy, the director’s compensation may be reduced below the maximum amounts shown above. All directors are also entitled to participate in a non-qualified, unfunded, deferred compensation plan, under which each Bank director has the opportunity to defer all or a portion of the compensation paid under this policy. In addition to the maximum annual compensation, the Bank reimburses directors for necessary and reasonable travel and related expenses incurred in connection with the performance of their official duties in accordance with the Bank’s employee reimbursement policy.

(All dollar amounts within this Item 11 Executive Compensation are in whole dollars unless otherwise specified)

The Chairperson of the Board, the Vice Chairperson of the Board, and the Chairperson of the Human Resources & Compensation Committee reviewed director performance, as required by the 2020 Board of Directors Compensation Policy, and determined that directors serving during 2020 earned the compensation disclosed in the table below. The HR&C Committee was notified of the determination.

Name	**2020 Total Fees Earned**	2020 Fees Paid in Cash	2020 Fees Deferred [a]
John K. Reinke - Chairperson	**145,000**	145,000	—
James T. Ashworth - Vice Chairperson	**130,000**	130,000	—
Edward P. Brady	**117,000**	117,000	—
Mary J. Cahillane	**117,000**	87,750	29,250
Mark J. Eppli	**105,000**	105,000	—
Joseph Fazio III	**105,000**	—	105,000
Michelle L. Gross	**117,000**	117,000	—
James H. Hegenbarth	**105,000**	105,000	—
Phyllis Lockett	**105,000**	105,000	—
David Loundy	**105,000**	102,900	2,100
David R. Pirsein	**117,000**	76,050	40,950
Leo J. Ries	**105,000**	105,000	—
Lois A. Scott	**130,000**	130,000	—
Michael G. Steelman	**105,000**	105,000	—
Ty R.Taylor	**105,000**	105,000	—
Daniel G. Watts	**105,000**	105,000	—
Gregory A. White	**117,000**	117,000	—
Charles Young [b]	**105,000**	105,000	—
Total	**$ 2,040,000**	$ 1,862,700	$ 177,300

[a] Directors could elect to defer fees to a director's non-qualified, unfunded, deferred compensation plan. Earnings on this deferred compensation are not included above as the rate paid was not above a market rate.
[b] Director Young resigned from the Board of Directors, effective December 31, 2020.

The Board compensation policy for 2021 was reported in a Form 8-K filed on November 6, 2020 and is attached as Exhibit 10.16 to this Form 10-K.

We are a cooperative and our capital stock may only be held by current and former member institutions, so we do not provide compensation to our directors in the form of stock or stock options. In addition, our directors do not participate in any of our incentive or pension plans.

FHLB Director compensation is subject to FHFA regulations that permit an FHLB to pay its directors reasonable compensation and expenses, subject to the authority of the FHFA Director to object to, and to prohibit prospectively, compensation and other expenses that the FHFA Director determines are not reasonable.

Compensation Committee Interlocks and Insider Participation

During 2020, the following directors served on our HR&C Committee: Michelle L. Gross (Chairperson), Phyllis Lockett (Vice Chairperson), James H. Hegenbarth, Michael G. Steelman , Gregory A. White, Charles D. Young, and John K. Reinke (ex-officio). No member of our HR&C Committee has at any time been an officer or employee of the Bank. None of our executive officers have served or are serving on the Board of Directors or the compensation committee of any entity whose executive officers served on our HR&C Committee or Board of Directors.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

We are cooperatively owned. Our members (and, in limited circumstances, former members) own our outstanding capital stock, and a majority of our directors are elected from our membership. No individuals, including our directors, officers and employees, may own our capital stock. The exclusive voting rights of members in 2020 are for the election of our directors, as more fully discussed in **2020 Director Election** on page 90.

We do not offer any compensation plan under which our capital stock is authorized for issuance.

The following table sets forth information about beneficial owners of more than 5% of our outstanding regulatory capital stock:

As of January 31, 2021	Regulatory Capital Stock	% of Total
One Mortgage Partners Corporation [a]		
10 South Dearborn St., Suite 413 Chicago, IL 60603	**$ 245**	**10.65 %**
State Farm Mutual Automobile Insurance Co.		
One State Farm Plaza Bloomington, IL 61791	**206**	**8.94 %**
The Northern Trust Company		
50 South LaSalle Street Chicago, IL 60603	**205**	**8.92 %**

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

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(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table sets forth information about those members with an officer or director serving as a director of the Bank. Independent directors do not control any capital stock of the Bank.

As of January 31, 2021	Director Name	Regulatory Capital Stock [a]	% of Total
The Park Bank 1815 Greenway Cross Madison, WI 53713	James H. Hegenbarth	$ 4.84	0.21 %
Waukesha State Bank 151 E. St. Paul Avenue Waukesha, WI 53187	Ty R. Taylor	4.50	0.20 %
Devon Bank 6445 Western Avenue Chicago, IL 60645	David J. Loundy	2.42	0.11 %
Commerce State Bank 1700 S. Silverbrook Drive West Bend, WI 53095	Joseph Fazio III	1.48	0.06 %
The Stephenson National Bank & Trust 1820 Hall Avenue Marinette, WI 54143	John K. Reinke	1.41	0.06 %
CNB Bank & Trust, N.A. 450 West Side Square Carlinville, IL 62626	James T. Ashworth	1.13	0.05 %
Forest Park National Bank and Trust Company 7348 W. Madison St. Forest Park, IL 60130	Daniel G. Watts	0.34	0.01 %
First National Bank in Pinckneyville 210 S. Main Street Pinckneyville, IL 62274	David R. Pirsein	0.27	0.01 %
State Bank of Bement 180 E. Bodman Street Bement, IL 61813	Michelle L. Gross	0.23	0.01 %
Farmers & Merchants State Bank of Bushnell 484 East Main Street Bushnell, IL 61422	Michael G. Steelman	0.04	0.002 %
Total members with a Director as a group		$ 16.66	0.72 %

[a] The regulatory capital stock that a member institution owns is pledged to us as additional collateral on advances and all other outstanding obligations for that member.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Related Persons and Related Transactions

We are a cooperative and capital stock ownership is a prerequisite to transacting any member business with us. Our members (and, in limited circumstances, former members) own all of our capital stock.

Our Board of Directors consists of two types of directors: “member directors” and “independent directors”. Member directors are required to be directors or officers of our members, whereas independent directors cannot be directors or officers of a Bank member. For further discussion of the eligibility criteria for our directors, see **Nomination of Member Directors** and **Nomination of Independent Directors** on page 89. We have seven independent directors and ten member directors currently serving on our Board.

We conduct our advances business, the MPF Program, and letters of credit almost exclusively with members. Therefore, in the normal course of business, we extend credit to members whose officers and directors may serve as our directors. We extend credit to them on market terms that are no more favorable than the terms of comparable transactions with other members who are not considered related parties (as defined below). In addition, we may purchase short-term investments, sell Federal Funds to, and purchase MBS from members (or affiliates of members) whose officers or directors serve as our directors. All such investments are market term transactions and all such MBS are purchased through securities brokers or dealers. As an additional service to our members, including those whose officers or directors serve as our directors, we may enter into interest rate derivatives with members and offset these derivatives with non-member counterparties. These transactions are executed on market terms.

We define a “related person” as any director or executive officer of the Bank, any member of their immediate families, or any holder of 5% or more of our capital stock.

During 2020, we did not have a separate written policy to have the Board of Directors review, approve, or ratify transactions with related persons that are outside the ordinary course of business because such transactions rarely occur. However, it has been our practice to report to the Board all transactions between us and our members that are outside the ordinary course of business, and on a case-by-case basis, seek approval or ratification from the Board. In addition, each director is required to disclose to the Board any personal financial interests he or she has and any financial interests of immediate family members or of a director's business associates where such person or entity does or proposes to do business with us. Under our Code of Ethics, executive officers are prohibited from engaging in conduct that would cause an actual or apparent conflict of interest. An executive officer other than the CEO and President may seek a waiver of this provision from the CEO and President, and the CEO and President may seek a waiver from the Board.

Director Independence

General

Our Board of Directors is required to evaluate and report on the independence of our directors under two distinct director independence standards. First, FHFA regulations establish independence criteria for directors who serve as members of our Audit Committee. Second, SEC rules require that our Board of Directors apply the independence criteria of a national securities exchange or automated quotation system in assessing the independence of its directors and members of its board committees, to the extent the exchange or quotation system selected by the Bank has adopted separate independence rules for such committee members.

See **Information Regarding Current Directors of the Bank** on page 90 for more information on our current directors. None of our directors is a Bank employee or officer. Further, our directors are prohibited from personally owning stock in the Bank. Each of the member directors, however, is a senior officer or director of an institution that is one of our members, and our members are able, and are encouraged, to engage in transactions with us on a regular basis.

FHFA Regulations Regarding Independence

The FHFA director independence standards prohibit an individual from serving as a member of our Audit Committee if he or she has one or more disqualifying relationships with us or our management that would interfere with the exercise of that individual's independent judgment. Relationships considered disqualifying by the FHFA include: employment with the Bank at any time during the last five years; acceptance of compensation from the Bank other than for service as a director; being a consultant, advisor, promoter, underwriter or legal counsel for the Bank at any time within the last five years; and being an immediate family member of an individual who is or who has been within the past five years, a Bank executive officer. Our Board of Directors assesses the independence of each director under the FHFA's independence standards, regardless of whether he or she serves on the Audit Committee. Our Board of Directors determined that all of our directors are independent under these criteria.

SEC Rules Regarding Independence

SEC rules require our Board to adopt a standard of independence to evaluate our directors. Pursuant thereto, the Board adopted the independence standards of the New York Stock Exchange (the NYSE) to determine which of our directors are independent, which members of our Audit Committee and HR&C Committee are not independent, and whether our Audit Committee's financial experts are independent.

Under the NYSE rules, no director qualifies as independent unless the full Board affirmatively determines that he or she has no material relationship with the company (either directly or as a partner, shareholder or officer of an organization that has a relationship with the company). In addition, the NYSE rules set out a number of specific disqualifications from independence, including certain employment relationships between the director or his or her family members and the company, the company’s internal or external auditor, another company where any of the company’s executive officers is a compensation committee member or another company that conducted business with the company above a specified threshold; and receipt by the director or his or her family members of compensation from the company above a specified threshold (with certain exceptions).

Applying the NYSE independence standards for boards of directors to our current member directors and those who served during 2020, our Board determined that only member directors Loundy, Steelman, Taylor, and Watts did not trigger any of the objective NYSE independence disqualifications. However, based upon the fact that each member director is a senior officer or director of an institution that is a member of the Bank (and thus is an equity holder in the Bank), that each such institution routinely engages in transactions with us, and that such transactions occur frequently and are encouraged, the Board determined that at the present time it would conclude that none of these member directors, consisting of Ashworth, Fazio, Gross, Hegenbarth, Loundy, Pirsein, Reinke, Steelman, Taylor, and Watts meets the independence criteria under the NYSE independence standards. None of the independent directors are employees or officers of institutions that are members of the Bank, and therefore do not have, ongoing business transactions with us. The Board determined that each of these independent directors, consisting of Brady, Cahillane, Eppli, Lockett, Ries, Scott, White and Young (who resigned from the Board effective December 31, 2020), is independent under the NYSE independence standards. Similarly, the Board determined that the following current member directors serving on the Audit Committee, and member directors who served on the Audit Committee during 2020, are not independent under the NYSE independence standards for audit committees: Ashworth, Fazio, Hegenbarth, Reinke, and Watts. The Board determined that the following current member directors serving on the HR&C Committee, and member directors who served on the HR&C Committee in 2020, are not independent under the NYSE independence standards for compensation committees: Ashworth, Gross, Hegenbarth, Reinke, and Steelman.

(Dollars in tables in millions except per share amounts unless otherwise indicated)

Item 14. Principal Accountant Fees and Services.

The following table sets forth the aggregate fees we have been charged (or accrued) by our external accounting firm:

	(in thousands)	
For the Years Ended December 31,	**2020**	2019
Audit fees	**$ 985**	$ 995
Audit related fees	**258**	262
All other fees	**3**	3
Total fees	**$ 1,246**	$ 1,260

Audit fees were for professional services rendered for the audits of our financial statements. Audit related fees were for other assurance and related services. Other fees related to software license fees. No tax related fees were paid. No fees were paid for financial information system design or implementation.

Our Audit Committee has adopted the Pre-Approval of Audit-Related and Non-Audit Services Policy (the Policy). In accordance with the Policy and applicable law, the Audit Committee pre-approves audit services, audit-related services, and permissible non-audit services to be provided by its independent auditor. The term of any pre-approval of audit services is the Bank's financial year, and of audit-related and non-audit services in the calendar year, unless the Audit Committee specifically provides otherwise. On an annual basis, the Audit Committee reviews the list of specific services and projected fees for services to be provided for the next 12 months.

PART IV
Item 15. Exhibits, Financial Statements Schedules.

(a) See "2020 Annual Financial Statements and Notes"

(b) The below exhibits were filed with the Form 10-K Annual Report to the SEC on March 9, 2021, or as noted below, were filed with the Bank's previously filed Annual, Quarterly, or Current Reports or registration statements, copies of which may be obtained by going to the SEC's website at www.sec.gov. Each exhibit that is considered a management contract or compensatory plan or arrangement required to be filed is identified with a "*".

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Exhibit No.	Description
3.1	Federal Home Loan Bank of Chicago Charter [a]
3.2	Federal Home Loan Bank of Chicago Bylaws [b]
4.1	Capital Plan of the Federal Home Loan Bank of Chicago, as amended and restated effective July 1, 2020 [c]
4.2	Description of Securities [y]
10.1.1	Sublease Agreement between the Federal Home Loan Bank of Chicago and the Aon Corporation dated December 31, 2008 [d]
10.1.2	First Amendment to Sublease Agreement, dated January 26, 2010 [e]
10.2	Office Lease between the Federal Home Loan Bank of Chicago and Wells REIT-Chicago Center Owner, LLC, dated January 9, 2009 [f]
10.2.1	Third Amendment to Lease, dated August 28, 2019 [v]
10.2.2	Fourth Amendment to Lease, dated April 24, 2020 [w]
10.3	Advances, Collateral Pledge, and Security Agreement [g]
10.4	Mortgage Partnership Finance Participating Financial Institution Agreement [Origination or Purchase] [h]
10.5	Mortgage Partnership Finance Participating Financial Institution Agreement [Purchase Only] [i]
10.6	Mortgage Partnership Finance Program Consolidated Interbank Agreement, dated July 22, 2016 [j]
10.7	Federal Home Loan Banks P&I Funding and Contingency Plan Agreement, as amended and restated effective as of January 1, 2017, by and among the Office of Finance and each of the Federal Home Loan Banks [k]
10.8	Employment Agreement between the Federal Home Loan Bank of Chicago and Matthew R. Feldman, effective January 1, 2018 [*l]
10.9	Federal Home Loan Bank of Chicago Key Employee Long Term Incentive Compensation Plan, dated December 19, 2008 [*m]
10.10	Federal Home Loan Bank of Chicago President and Executive Team Incentive Compensation Plan, as amended and restated effective January 1, 2017 [*n]
10.11	Federal Home Loan Bank of Chicago Benefit Equalization Plan, dated December 16, 2003 [*o]
10.12	Federal Home Loan Bank of Chicago Post December 31, 2004 Benefit Equalization Plan, as amended and restated effective January 1, 2013 [*p]
10.13	Federal Home Loan Bank of Chicago Employee Severance Plan, dated April 24, 2007 [*q]
10.14	Federal Home Loan Bank of Chicago 2019 Board of Directors Compensation Policy [*r]
10.15	Federal Home Loan Bank of Chicago 2020 Board of Directors Compensation Policy *[s]
10.16	Federal Home Loan Bank of Chicago 2021 Board of Directors Compensation Policy* [y]
10.17	Federal Home Loan Bank of Chicago Board of Directors Deferred Compensation Plan, effective September 1, 2013 [*t]
10.18	Joint Capital Enhancement Agreement, as amended August 5, 2011 [u]
10.19	Employment Agreement between Federal Home Loan Bank of Chicago and Michael Ericson, entered into as of January 1, 2021 [*x]
24	Power of Attorney [y]
31.1	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by the Principal Executive Officer [y]
31.2	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by the Principal Financial Officer [y]
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by the Principal Executive Officer [y]
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by the Principal Financial Officer [y]
101.INS	Inline XBRL Instance Document - The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document [y]
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document [y]
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document [y]
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document y
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document [y]
104000	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

[a] Filed as Exhibit 3.1 with our Form 10 on December 14, 2005, SEC File No.: 000-51401
[b] Filed as Exhibit 3.1 with our 8-K Current Report on June 6, 2019, SEC File No.: 000-51401
[c] Filed as Exhibit 4.1 with our 8-K Current Report on May 19, 2020, SEC File No.: 000-51401
[d] Filed as Exhibit 10.1 with our 8-K Current Report on January 15, 2009, SEC File No.: 000-51401
[e] Filed as Exhibit 10.1 with our 8-K Current Report on February 1, 2010, SEC File No.: 000-51401
[f] Filed as Exhibit 10.2 with our 8-K Current Report on January 15, 2009, SEC File No.: 000-51401
[g] Filed as Exhibit 10.3 with our Form 10-K on March 17, 2011, SEC File No.: 000-51401
[h] Filed as Exhibit 10.4 with our Form 10 on December 14, 2005, SEC File No.: 000-51401
[i] Filed as Exhibit 10.4.1 with our Form 10 on December 14, 2005, SEC File No.: 000-51401
[j] Filed as Exhibit 10.1 with our Form 10-Q on November 3, 2016, SEC File No.: 000-51401
[k] Filed as Exhibit 10.7 with our Form 10-K on March 9, 2017, SEC File No.: 000-51401
[l] Filed as Exhibit 10.1 with our 8-K Current Report on May 25, 2018, SEC File No.: 000-51401
[m] Filed as Exhibit 10.22 with our Form 10-K on March 20, 2009, SEC File No.: 000-51401
[n] Filed as Exhibit 10.2 on our Form 10-Q on May 8, 2017, SEC File No.: 000-51401
[o] Filed as Exhibit 10.8.4 with our Form 10 on December 14, 2005, SEC File No.: 000-51401
[p] Filed as Exhibit 10.2 with our Form 10-Q on November 6, 2013, SEC File No.: 000-51401
[q] Filed as Exhibit 10.1 with our Form 10-Q on May 11, 2007, SEC File No.: 000-51401
[r] Filed as Exhibit 10.16 with our Form 10-K on March 8, 2019, SEC File No.: 000-51401
[s] Filed as Exhibit 10.16 with our Form 10-K on March 11, 2020, SEC File No.: 000-51401
[t] Filed as Exhibit 10.4 with our Form 10-Q on November 6, 2013, SEC File No.: 000-51401
[u] Filed as Exhibit 99.1 with our 8-K Current Report on August 5, 2011, SEC File No.: 000-51401
[v] Filed as Exhibit 10.1 with our Form 10-Q on November 7, 2019, SEC File No.: 000-51401
[w] Filed as Exhibit 10.1 with our Form 10-Q on August 6, 2020 SEC File No.:000-51401
[x] Filed as Exhibit 10.1 with our 8-K/A Current Report on September 18, 2020 SEC File No.:000-51401
[y] Filed Herewith

Item 16. Form 10-K Summary.

Not applicable.

Glossary of Terms

Advances: Secured loans to members.

ABS: Asset-backed-securities.

AFS: Available-for-sale debt securities.

Agency MBS: Mortgage-backed securities issued by, or comprised of mortgage loans guaranteed by, Fannie Mae or Freddie Mac.

AHP: Affordable Housing Program.

ALM Policy: Our Asset/Liability Management Policy.

AMA: Acquired Member Assets. Assets that an FHLB may acquire from or through FHLB System members or housing associates by means of either a purchase or a funding transaction.

AMA investment grade: A determination made by the Bank with respect to an asset or pool, based on documented analysis, including consideration of applicable insurance, credit enhancements, and other sources for repayment on the asset or pool, that the Bank has a high degree of confidence that it will be paid principal and interest in all material respects, even under reasonably likely adverse changes to expected economic conditions.

AVM: Automated Valuation Methodology. A service that provides real estate property valuations using mathematical modeling combined with a database.

AOCI: Accumulated Other Comprehensive Income (Loss).

BEP: Benefit Equalization Plan.

Capital Plan (or Amended Capital Plan): The Second Amended and Restated Capital Plan of the Federal Home Loan Bank of Chicago, effective as of July 1, 2020.

CARES Act: The Coronavirus, Aid, Relief, and Economic Security Act, enacted March 27, 2020.

CBSA: 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.

CDFI: Community Development Financial Institution.

CE Amount: A PFI's assumption of credit risk, beyond any Recoverable CE Fees in the FLA, on conventional MPF Loan products held in an MPF Bank's portfolio that are funded by, or sold to, an MPF Bank by providing credit enhancement either through a direct liability to pay credit losses up to a specified amount or through a contractual obligation to provide SMI. Does not apply to the MPF Government, MPF Xtra, MPF Direct or MPF Government MBS product.

CE Fee: Credit enhancement fee. PFIs are paid a credit enhancement fee for managing credit risk and in some instances, all or a portion of the CE Fee may be performance based.

CFI: Community Financial Institution - FDIC-insured institutions with an average of total assets over the prior three years which is less than the level prescribed by the FHFA and adjusted annually for inflation. Effective in January 2021, the limit is $1.239 billion (for 2020, the limit was $1.224 billion).

CO Curve: Consolidated Obligation curve. The Office of Finance constructs a market-observable curve referred to as the CO Curve. This curve is constructed using the U.S. Treasury Curve as a base curve which is then adjusted by adding indicative spreads obtained largely from market observable sources. These market indications are generally derived from pricing indications from dealers, historical pricing relationships, market activity such as recent GSE trades, and other secondary market activity.

Consolidated Obligations (CO): FHLB debt instruments (bonds and discount notes) which are the joint and several liability of all FHLBs; issued by the Office of Finance.

Consolidated obligation bonds: Consolidated obligations that make periodic interest payments with a term generally over one year, although we have issued for terms of less than one year.

COSO: The Committee of Sponsoring Organizations of the Treadway Commission. A joint initiative of the private sector dedicated to providing frameworks and guidance on enterprise risk management, internal control and fraud deterrence.

DC: Delivery commitment. Commitments to purchase MPF Loans carried at fair value as a derivative asset or derivative liability, with changes in fair value immediately recognized as noninterest income on derivatives and hedging activities in our statements of income.

DCO: Derivatives Clearing Organization. A clearinghouse, clearing association, clearing corporation, or similar entity that enables each party to an agreement, contract, or transaction to substitute, through novation or otherwise, the credit of the DCO for the credit of the parties; arranges or provides, on a multilateral basis, for the settlement or netting of obligations; or otherwise provides clearing services or arrangements that mutualize or transfer credit risk among participants.

Discount notes: Consolidated obligations with a term of one year or less, which sell at less than their face amount and are redeemed at par value when they mature.

Dodd-Frank Act: Dodd-Frank Wall Street Reform and Consumer Protection Act, enacted July 21, 2010.

DPP: Downpayment Plus Program.

ERISA: Employee Retirement Income Security Act.

Excess capital stock: Capital stock held by members in excess of their minimum investment requirement.

Fannie Mae: Federal National Mortgage Association.

FASB: Financial Accounting Standards Board.

FCM: Futures Commission Merchant.

FDIC: Federal Deposit Insurance Corporation.

Federal Reserve: Federal Reserve Bank of New York.

FFELP: Federal Family Education Loan Program.

FHA: Federal Housing Administration.

FHFA: Federal Housing Finance Agency - The Housing and Economic Recovery Act of 2008 enacted on July 30, 2008 created the Federal Housing Finance Agency which became the regulator of the FHLBs.

FHFA Purchase Only House Price Index (HPI): The HPI is a broad measure of the movement of single-family house prices. The HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975.

FHLB Act: The Federal Home Loan Bank Act of 1932, as amended.

FHLBs: The 11 Federal Home Loan Banks or subset thereof.

FHLBC: The Federal Home Loan Bank of Chicago.

Finance Board: The Federal Housing Finance Board. We were supervised and regulated by the Finance Board, prior to creation of the Federal Housing Finance Agency as regulator of the FHLBs by the Housing Act, effective July 30, 2008.

Fitch: Fitch Ratings, Inc.

FLA: First loss account is a memo account used to track the MPF Bank's exposure to losses until the CE Amount is available to cover losses.

Freddie Mac: Federal Home Loan Mortgage Corporation.

GAAP: Generally Accepted Accounting Principles in the United States of America.

Ginnie Mae: Government National Mortgage Association.

Ginnie Mae MBS: Mortgage-backed securities guaranteed by Ginnie Mae.

GLB Act: Gramm-Leach-Bliley Act of 1999.

Government Loans: Mortgage loans insured or guaranteed by the Federal Housing Administration (FHA), the Department of Housing and Urban Development (HUD), the Department of Veteran Affairs (VA) or Department of Agriculture Rural Housing Service (RHS).

GSE: Government sponsored enterprise.

HFS: Held for sale.

Housing Act: Housing and Economic Recovery Act of 2008, enacted July 30, 2008.

HR&C Committee: Human Resources and Compensation Committee.

HUD: Department of Housing and Urban Development.

HTM: Held-to-maturity debt securities.

JCE Agreement: Joint Capital Enhancement Agreement entered into by all FHLBs, effective February 28, 2011 and amended August 5, 2011, which is intended to enhance the capital position of each FHLB. The intent of the agreement is to allocate that portion of each FHLB's earnings to a separate retained earnings account at that FHLB.

Lead Bank: MPF Bank selling interests in MPF Loans.

LIBOR: London Interbank Offered Rate.

LTV: Loan-to-value ratio.

Master Commitment (MC): Pool of MPF Loans purchased or funded by an MPF Bank.

MBS: Mortgage-backed securities.

Moody's: Moody's Investors Service.

MPF®: Mortgage Partnership Finance.

MPF Banks: FHLBs that participate in the MPF program.

MPF Direct product: The MPF Program product under which we acquire non-conforming MPF Loans from PFIs and concurrently resell them to a third party investor.

MPF Government MBS product: The MPF Program product under which we aggregate Government Loans acquired from PFIs in order to issue securities guaranteed by the Ginnie Mae that are backed by such Government Loans.

MPF Guides: MPF Program Guide, MPF Selling Guide, and MPF Servicing Guide including the Selling and Servicing Guides and manuals for specific MPF Loan products.

MPF Loans: Conventional and government mortgage loans secured by one-to-four family residential properties with maturities from five to 30 years or participations in such mortgage loans that are acquired under the MPF Program.

MPF Program: A secondary mortgage market structure that provides liquidity to FHLB members that are PFIs through the purchase or funding by an FHLB of MPF Loans.

MPF Provider: The Federal Home Loan Bank of Chicago, in its role of providing programmatic and operational support to the MPF Banks and their PFIs.

MPF Xtra® product: The MPF Program product under which we acquire MPF Loans from PFIs without any CE Amount and concurrently resell them to Fannie Mae.

MRCS: Mandatorily Redeemable Capital Stock.

NEO: Named executive officer.

Nonaccrual MPF Loans: Nonperforming mortgage loans in which the collection of principal and interest is determined to be doubtful or when interest or principal is past due for 90 days or more, except when the MPF Loan is well secured and in the process of collection.

NRSRO: Nationally Recognized Statistical Rating Organization.

NYSE: New York Stock Exchange.

OCI: Other Comprehensive Income.

Office of Finance: A joint office of the FHLBs established by the Finance Board to facilitate issuing and servicing of consolidated obligations.

OIS: Fed Funds Effective Swap Rate (or Overnight Index Swap Rate).

OTTI: Other-than-temporary impairment.

OTTI Committee: An FHLB System OTTI Committee formed by the FHLBs to achieve consistency among the FHLBs in their analyses of the OTTI of PLMBS.

PCAOB: Public Company Accounting Oversight Board.

Pension Plan: Pentegra Defined Benefit Plan for Financial Institutions.

PFI: Participating Financial Institution. A PFI is a member (or eligible housing associate) of an MPF Bank that has applied to and been accepted to do business with its MPF Bank under the MPF Program.

PFI Agreement: MPF Program Participating Financial Institution Agreement.

PLMBS: Private label mortgage backed securities.

PMI: Primary Mortgage Insurance.

PwC: PricewaterhouseCoopers LLP.

RCAP: Reduced Capitalization Advance Program.

Recorded Investment: Recorded investment in a loan is its amortized cost basis plus related accrued interest receivable, if any. Recorded investment is not net of an allowance for credit losses but is net of any direct charge-off on a loan. Amortized cost basis is defined as either the amount funded or the cost to purchase MPF Loans. Specifically, the amortized cost basis includes the initial fair value amount of the delivery commitment as of the purchase or settlement date, agent fees (i.e., market risk premiums or discounts paid to or received from PFIs), if any, subsequently adjusted, if applicable, for accretion, amortization, collection of cash, charge-offs, and cumulative basis adjustments related to fair value hedges.

Recoverable CE Fee: Under the MPF Program, the PFI may receive a contingent performance based credit enhancement fee whereby such fees are reduced up to the amount of the FLA by losses arising under the Master Commitment.

Regulatory capital: Regulatory capital stock plus retained earnings.

Regulatory capital stock: The sum of the paid-in value of capital stock and mandatorily redeemable capital stock.

REO: Real estate owned.

RHS: Department of Agriculture Rural Housing Service.

S&P: Standard and Poor's Rating Service.

Savings Plan: Pentegra Defined Contribution Plan for Financial Institutions.

SBA: Small Business Administration.

SEC: Securities and Exchange Commission.

Secretary: Secretary of the U.S. Treasury.

SMI: Supplemental mortgage insurance.

SOFR: Secured Overnight Financing Rate

System or FHLB System: The Federal Home Loan Bank System consisting of the 11 Federal Home Loan Banks and the Office of Finance.

TBA: A forward contract on a mortgage-backed security (MBS), typically issued by a U.S. government sponsored entity, whereby a seller agrees to deliver an MBS for an agreed upon price on an agreed upon date.

TDR: Troubled Debt Restructuring

UPB: Unpaid Principal Balance.

U.S.: United States

VA: Department of Veteran's Affairs.

FHLB Chicago | Federal Home Loan Bank of Chicago

2020 Annual Financial Statements and Notes

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Report of Independent Registered Public Accounting Firm

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

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying statements of condition of the Federal Home Loan Bank of Chicago (the "Bank") as of December 31, 2020 and 2019, and the related statements of income, comprehensive income, capital, and cash flows for each of the three years in the period ended December 31, 2020, including the related notes (collectively referred to as the "financial statements"). We also have audited the Bank's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Bank as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail,

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accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Interest-Rate Derivatives and Hedged Items

As described in Notes 9 and 15 to the financial statements, the Bank uses derivatives to manage interest rate risk. The total notional amount of derivatives as of December 31, 2020 was $54 billion, of which 73% were designated as hedging instruments, and the fair value of derivative assets and liabilities as of December 31, 2020 was $5 million and $691 million, respectively. The fair values of interest-rate derivatives and hedged items not transacted in an active market use standard valuation techniques, such as discounted cash-flow analysis and comparisons to similar instruments. The discounted cash-flow analysis uses market-observable inputs, related to interest rate curves, volatility, and, if applicable, prepayment assumptions.

The principal considerations for our determination that performing procedures relating to the valuation of interest-rate derivatives and hedged items is a critical audit matter are the significant audit effort in evaluating the interest rate curves, volatility, and, if applicable, prepayment assumptions used to fair value these derivatives and hedged items, and the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. These procedures included testing the effectiveness of controls relating to the valuation of interest-rate derivatives and hedged items, including controls over the method, data and assumptions. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in developing an independent range of prices for a sample of interest rate derivatives and hedged items and comparison of management's estimate to the independently developed ranges. Developing the independent range of prices involved testing the completeness and accuracy of data provided by management and independently developing the interest rate curves, volatility, and, if applicable, prepayment assumptions.

PricewaterhouseCoopers LLP

Chicago, Illinois
March 9, 2021

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

FHLB Chicago | Federal Home Loan Bank of Chicago

Statements of Condition (Dollars in millions, except capital stock par value)

	December 31, 2020	December 31, 2019
Assets		
Cash and due from banks	**$ 3,541**	$ 29
Interest bearing deposits	**855**	1,680
Federal Funds sold	**4,125**	7,356
Securities purchased under agreements to resell	**10,120**	6,750
Investment debt securities -		
Trading, **1,292** and 432 pledged	**4,621**	4,648
Available-for-sale, **18,145** and 15,963 amortized cost	**18,437**	16,067
Held-to-maturity, **1,549** and 2,615 fair value	**1,491**	2,381
Investment debt securities	**24,549**	23,096
Advances, **1,315** and 2,808 carried at fair value	**46,695**	50,508
MPF Loans held in portfolio, net of **(3)** and (1) allowance for credit losses	**10,038**	10,000
Derivative assets	**5**	6
Other assets, **105** and 83 carried at fair value net of **(7)** and — allowance for credit losses	**428**	402
Assets	**$ 100,356**	$ 99,827
Liabilities		
Deposits -		
Demand and overnight - noninterest bearing	**$ 394**	$ 184
Demand and overnight - interest bearing, **18** and 15 from other FHLBs	**875**	663
Term deposits - interest bearing	**15**	—
Deposits	**1,284**	847
Consolidated obligations -		
Discount notes, **2,000** and 17,966 carried at fair value	**48,643**	41,675
Bonds, **1,844** and 7,984 carried at fair value	**42,670**	50,474
Consolidated obligations, net -	**91,313**	92,149
Derivative liabilities	**691**	14
Affordable Housing Program assessment payable	**89**	84
Mandatorily redeemable capital stock	**279**	324
Other liabilities	**411**	955
Liabilities	**94,067**	94,373
Commitments and contingencies - see notes to the financial statements		
Capital		
Class B1 activity stock, **13** and 13 million shares issued and outstanding	**1,257**	1,337
Class B2 membership stock, **8** and 4 million shares issued and outstanding	**753**	376
Capital stock - putable, $100 and $100 **par value**	**2,010**	1,713
Retained earnings - unrestricted	**3,424**	3,197
Retained earnings - restricted	**648**	573
Retained earnings	**4,072**	3,770
Accumulated other comprehensive income (loss) (AOCI)	**207**	(29)
Capital	**6,289**	5,454
Liabilities and capital	**$ 100,356**	$ 99,827

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

FHLB Chicago | Federal Home Loan Bank of Chicago

Statements of Income (Dollars in millions)

For the years ended December 31,	**2020**	2019	2018
Interest income	**$ 1,435**	$ 2,635	$ 2,315
Interest expense	**840**	2,177	1,802
Net interest income	**595**	458	513
Provision for (reversal of) credit losses	**7**	—	—
Net interest income after provision for (reversal of) credit losses	**588**	458	513
Noninterest income -			
Trading securities	**15**	24	15
Investment securities gains	**109**	—	—
Derivatives and hedging activities	**(148)**	(9)	(24)
Instruments held under fair value option	**60**	35	(19)
MPF fees, **31**, 28 and 24 from other FHLBs	**54**	38	32
Other, net	**14**	12	12
Noninterest income	**104**	100	16
Noninterest expense -			
Compensation and benefits	**132**	115	110
Nonpayroll operating expenses	**94**	96	74
COVID-19 relief	**28**	—	—
Other, net	**21**	12	7
Noninterest expense	**275**	223	191
Income before assessments	**417**	335	338
Affordable Housing Program assessment	**43**	35	35
Net income	**$ 374**	$ 300	$ 303

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

FHLB Chicago | Federal Home Loan Bank of Chicago

Statements of Comprehensive Income (Dollars in millions)

For the years ended December 31,	**2020**	2019	2018
Net income	**$ 374**	$ 300	$ 303
Other comprehensive income (loss) -			
Net unrealized gain (loss) available-for-sale debt securities	**188**	(107)	(196)
Noncredit OTTI held-to-maturity debt securities	**85**	29	29
Net unrealized gain (loss) cash flow hedges	**(27)**	(7)	116
Postretirement plans	**(10)**	1	(6)
Other comprehensive income (loss)	**236**	(84)	(57)
Comprehensive income	**$ 610**	$ 216	$ 246

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

FHLB Chicago | Federal Home Loan Bank of Chicago

Statements of Capital (Dollars and shares in millions)

	Capital Stock - Putable - B1 Activity		Capital Stock - Putable - B2 Membership		Retained Earnings			
	Shares	Value	Shares	Value	Unrestricted	Restricted	AOCI	Total
December 31, 2019	**13**	**$1,337**	**4**	**$ 376**	**$ 3,197**	**$ 573**	**$ (29)**	**$ 5,454**
Cumulative effect adjustment - see Note 2					**(7)**			**(7)**
Comprehensive income					**299**	**75**	**236**	**610**
Issuance of capital stock	**18**	**1,701**	**—**	**24**				**1,725**
Repurchase of capital stock	**—**	**—**	**(14)**	**(1,427)**				**(1,427)**
Capital stock reclassified to mandatorily redeemable capital stock liability	**—**	**—**	**—**	**(1)**				**(1)**
Transfers between classes of capital stock	**(18)**	**(1,781)**	**18**	**1,781**				
Partial recovery of prior capital distribution to FICO - see Note 12					**19**			**19**
Cash dividends - class B1					**(77)**			**(77)**
Class B1 annualized rate		**5.00 %**						
Cash dividends - class B2					**(7)**			**(7)**
Class B2 annualized rate				**2.25 %**				
Total change in period, excl. cumulative effect	**—**	**(80)**	**4**	**377**	**234**	**75**	**236**	**842**
December 31, 2020	**13**	**1,257**	**8**	**753**	**3,424**	**648**	**207**	**6,289**
December 31, 2018	15	$1,476	2	$ 222	$ 3,023	$ 513	$ 55	$ 5,289
Cumulative effect adjustment - see Note 2					16			16
Comprehensive income					240	60	(84)	216
Issuance of capital stock	23	2,398	—	25				2,423
Repurchase of capital stock	—	—	(23)	(2,398)				(2,398)
Capital stock reclassified to mandatorily redeemable capital stock liability	—	(9)	—	(1)				(10)
Transfers between classes of capital stock	(25)	(2,528)	25	2,528				
Cash dividends - class B1					(78)			(78)
Class B1 annualized rate		5.00 %						
Cash dividends - class B2					(4)			(4)
Class B2 annualized rate				2.19 %				
Total change in period, excl. cumulative effect	(2)	(139)	2	154	158	60	(84)	149
December 31, 2019	13	1,337	4	376	3,197	573	(29)	5,454
December 31, 2017	12	1,241	2	202	2,845	452	112	4,852
Comprehensive income					242	61	(57)	246
Issuance of capital stock	29	2,844	—	12				2,856
Repurchase of capital stock	—	—	(26)	(2,598)				(2,598)
Capital stock reclassified to mandatorily redeemable capital stock liability	—	(2)	—	(1)				(3)
Transfers between classes of capital stock	(26)	(2,607)	26	2,607				
Cash dividends - class B1					(61)			(61)
Class B1 annualized rate		4.06 %						
Cash dividends - class B2					(3)			(3)
Class B2 annualized rate				1.65 %				
Total change in period, excl. cumulative effect	3	235	—	20	178	61	(57)	437
December 31, 2018	15	1,476	2	222	3,023	513	55	5,289

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

FHLB Chicago | Federal Home Loan Bank of Chicago

Statements of Cash Flows (Dollars in millions)

	For the years ended December 31,	2020	2019	2018
Operating	Net income	**$ 374**	$ 300	$ 303
	Adjustments to Reconcile Net Income (Loss) to Cash Provided by (Used in) Operating Activities -			
	Amortization and accretion	**137**	79	94
	Change in net fair value on derivatives and hedging activities	**(579)**	(557)	71
	Realized (gain) loss on sale of HTM securities	**(103)**	—	—
	Other, net	**(64)**	(57)	6
	Changes in operating assets or liabilities -			
	Purchases of mortgage loans to be securitized	**(469)**	(317)	(542)
	Proceeds from sales of securitized mortgage loans	**450**	342	550
	Other operating assets and liabilities	**(61)**	67	(74)
	Net cash provided by (used in) operating activities	**(315)**	(143)	408
Investing	Net change interest bearing deposits	**825**	(905)	—
	Net change Federal Funds sold	**3,231**	348	(143)
	Net change securities purchased under agreements to resell	**(3,370)**	(3,850)	2,100
	Trading debt securities -			
	Sales	**1,602**	2,455	375
	Proceeds from maturities and paydowns	**1,654**	1,506	914
	Purchases	**(3,225)**	(5,129)	(4,516)
	Available-for-sale debt securities -			
	Sales	**33**	—	—
	Proceeds from maturities and paydowns	**902**	4,521	3,686
	Purchases	**(2,785)**	(5,897)	(4,610)
	Held-to-maturity debt securities -			
	Sales	**404**	—	—
	Proceeds from maturities and paydowns	**2,485**	2,846	2,990
	Purchases	**(1,795)**	(1,961)	(2,000)
	Advances -			
	Principal collected	**965,414**	1,570,475	1,417,789
	Issued	**(961,113)**	(1,567,994)	(1,422,375)
	MPF Loans held in portfolio -			
	Principal collected	**4,103**	1,690	778
	Purchases	**(4,222)**	(4,614)	(2,697)
	Other investing activities	**(38)**	5	19
	Net cash provided by (used in) investing activities	**$ 4,105**	$ (6,504)	$ (7,690)

FHLB Chicago | Federal Home Loan Bank of Chicago

	For the years ended December 31,	2020	2019	2018
Financing	Net change deposits, incl. **3**, (13), and (3) from other FHLBs	**$ 437**	$ 296	$ 27
	Discount notes -			
	Net proceeds from issuance	**760,866**	1,368,607	1,978,593
	Payments for maturing and retiring	**(753,826)**	(1,370,102)	(1,976,663)
	Consolidated obligation bonds -			
	Net proceeds from issuance	**39,750**	44,693	35,074
	Payments for maturing and retiring	**(47,690)**	(36,790)	(29,936)
	Capital stock -			
	Proceeds from issuance	**1,725**	2,423	2,856
	Repurchases	**(1,427)**	(2,398)	(2,598)
	Cash dividends paid	**(84)**	(82)	(64)
	Other financing activities	**(29)**	1	(21)
	Net cash provided by (used in) financing activities	**(278)**	6,648	7,268
	Net increase (decrease) in cash and due from banks	**3,512**	1	(14)
	Cash and due from banks at beginning of period	**29**	28	42
	Cash and due from banks at end of period	**$ 3,541**	$ 29	$ 28
Supplemental	Cash activities			
	Interest paid	**$ 1,093**	$ 2,051	$ 1,535
	Affordable Housing Program assessments paid	**38**	35	39
	Noncash activities			
	Transfer of MPF Loans held for sale in other assets to securitized mortgage loans in trading debt securities	**368**	204	513
	Investment securities purchased and settled in subsequent periods	**60**	587	892

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

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 1 – Background and Basis of Presentation

The Federal Home Loan Bank of Chicago is a federally chartered corporation and one of 11 Federal Home Loan Banks (the FHLBs) that, with the Office of Finance, comprise the Federal Home Loan Bank System (the System). The FHLBs are government-sponsored enterprises (GSE) of the United States of America and were organized under the Federal Home Loan Bank Act of 1932, as amended (FHLB Act), in order to improve the availability of funds to support home ownership. We are supervised and regulated by the Federal Housing Finance Agency (FHFA), an independent federal agency in the executive branch of the United States (U.S.) government.

Each FHLB is a member-owned cooperative with members from a specifically defined geographic district. Our defined geographic district is Illinois and Wisconsin. All federally-insured depository institutions, insurance companies engaged in residential housing finance, credit unions and community development financial institutions located in our district are eligible to apply for membership with us. All our members are required to purchase our capital stock as a condition of membership. Our capital stock is not publicly traded and subject to certain statutory and regulatory limits, and is issued, repurchased or redeemed at a par value of $100 per share. As a cooperative, we do business with our members, and former members (under limited circumstances). Specifically, we provide credit principally in the form of secured loans called advances. We also provide liquidity for home mortgage loans to members approved as Participating Financial Institutions (PFIs) through the Mortgage Partnership Finance® (MPF®) Program.

Our accounting and financial reporting policies conform to generally accepted accounting principles in the United States of America (GAAP). Amounts in prior periods may be reclassified to conform to the current presentation and, if material, are disclosed in the following notes.

Unless otherwise specified, references to we, us, our, and the Bank are to the Federal Home Loan Bank of Chicago.

“Mortgage Partnership Finance”, “MPF”, “MPF Xtra”, and "Community First" are registered trademarks of the Federal Home Loan Bank of Chicago.

Refer to the **Glossary of Terms** starting on page 128 for the definitions of certain terms used herein.

Use of Estimates and Assumptions

We are required to make estimates and assumptions when preparing our financial statements in accordance with GAAP. The most significant of these estimates and assumptions applies to fair value measurements, which includes derivative instruments. Our actual results may differ from the results reported in our financial statements due to such estimates and assumptions. This includes the reported amounts of assets and liabilities, the reported amounts of income and expense, and the disclosure of contingent assets and liabilities.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Basis of Presentation

Gross versus Net Presentation - We present derivative assets and liabilities on a net basis in our statements of condition when our right to net amounts due between us and our counterparty, or us and our clearing agent, is enforceable at law. We include accrued net interest settlements and cash collateral, including initial and variation margin, in the carrying amount of a derivative. Over-the-counter derivatives are netted by contract (e.g., master netting agreement), to discharge all or a portion of the amounts that would be owed to our counterparty by applying them against the amounts that our counterparty owes to us. Additionally, we clear certain derivatives transactions with clearinghouses classified as a Derivatives Clearing Organization (DCO), through Futures Commission Merchants (FCM), a clearing member of the DCO. If these netted amounts are positive, they are classified as a derivative asset and if negative, they are classified as a derivative liability. We characterize the treatment of variation margin payments as settlements rather than as collateral for our cleared derivatives. As a result, we account for variation margin payments as settlements to our derivative assets and derivative liabilities. See **Note 2 - Summary of Significant Accounting Policies** for further details.

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 asset. Derivatives that do not have the legal right of offset are presented on a gross basis in our statements of condition.

Refer to **Note 9 - Derivatives and Hedging Activities** for further details.

Our policy is to report securities purchased under agreements to resell and securities sold under agreements to repurchase, if any, and securities borrowing transactions, if any, on a gross basis.

Segment Reporting - We manage our business activities as a single operating segment. Specifically, management defines our business, assesses our financial performance, and allocates our resources on an entity-wide basis. As a result, we disclose information on an entity-wide basis.

Consolidation of Variable Interest Entities - We are not the primary beneficiary of any variable interest entity. Specifically, we do not have the power to direct the activities of any variable interest entity that would most significantly impact its economic performance and we do not have the obligation to absorb losses or the right to receive benefits from any variable interest entity that could potentially be significant to a variable interest entity. As a result, we do not consolidate any of our investments in variable interest entities. Instead, we classify variable interest entities as investment debt securities in our statements of condition. Such investment debt securities include, but are not limited to, Federal Family Education Loan Program asset backed securities (FFELP ABS). Our maximum loss exposure for these investment debt securities is limited to their carrying amounts. We have no liabilities related to these investments in variable interest entities. We have not provided financial or other support (explicitly or implicitly) to these investment debt securities that we were not previously contractually required to provide, nor do we intend to provide such support in the future.

Note 2 – Summary of Significant Accounting Policies

We adopted the Accounting Standards Update Measurement of Credit Losses on Financial Instruments (ASU 2016-13), as amended, for interim and annual periods effective January 1, 2020, on a modified retrospective basis. The impact at the time of adoption was recognized for any difference between our existing and Currently Expected Credit Losses (CECL) allowance for credit losses as a cumulative effect adjustment to the opening balance of our retained earnings as of January 1, 2020. We recorded a cumulative effect adjustment to our opening balance of retained earnings of $(7) million, which related to Community First ® Fund (the "Fund") loans. There were no other material adjustments recognized at the time of adoption.

ASU 2016-13 amended existing GAAP guidance applicable to measuring credit losses on financial assets carried at amortized cost, which includes loans and held-to-maturity (HTM) securities, to be presented at the net amount expected to be collected, The new guidance also requires credit losses relating to these financial instruments as well as available for sale (AFS) securities to be recorded through an allowance for credit losses. The amendment replaced the "incurred loss" impairment methodology with a "currently expected credit losses" or CECL framework. The measurement of CECL is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the financial instrument's reported amount. Expected recoveries of amounts previously written off and expected to be written off should be included in the allowance for credit losses determination but should not exceed the aggregate of amounts previously written off and expected to be written off by us. In addition, for collateral dependent financial assets, the amendment indicated that an allowance for credit losses that is added to the amortized cost of the financial asset(s) should not exceed amounts previously written off. We elected not to measure an allowance for credit losses on accrued interest receivable as we reverse accrued interest on a monthly basis in the event of an interest shortfall. We present accrued interest receivable separately from the amortized cost of loans and HTM debt securities in Other assets on our statement of condition. An allowance for credit losses determination is not required because we recognize the reversal of interest on a monthly basis in the event of an interest shortfall. The accounting for HTM and available for sale (AFS) debt securities changed on a prospective basis. Reversals of prior losses is permitted for HTM and AFS securities purchased after January 1, 2020. Such reversals are not permitted for HTM and AFS OTTI debt securities existing prior to January 1, 2020. Additionally, HTM and AFS debt securities will have their own allowance for credit losses.

We adopted the Accounting Standards Update (ASU): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement (ASU 2018-15) for interim and annual periods on January 1, 2020. ASU 2018-15 amended existing GAAP to align the requirements for capitalizing implementation costs incurred in a hosting arrangement, that is, a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal use software (and hosting arrangements that include an internal use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by these amendments. The guidance did not have a material effect on our financial condition, results of operations, and cash flows. We applied the new guidance on a prospective basis.

Fair Value

Fair value represents the exit price that we would receive to sell an asset or pay to transfer a liability in an orderly transaction with a market participant at the measurement date.

Valuation Techniques and Significant Inputs

We utilize the fair value hierarchy when selecting valuation techniques and significant inputs to measure the fair value of our assets and liabilities. Our valuation techniques may utilize market, cost, and/or income models to estimate fair values. Under the fair value hierarchy, valuation techniques and significant inputs are prioritized from the most objective, such as quoted market prices in external active markets, to the least objective, such as valuation approaches that utilize unobservable inputs. The fair value hierarchy requires us to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Outlined below is an overview of Level 1, Level 2, and Level 3 of the fair value hierarchy. Refer to **Note 15 - Fair Value** for further details on our valuation techniques and significant inputs.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that we can access at the measurement date.

Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 inputs are unobservable inputs used to measure fair value of an asset or liability to the extent that relevant observable inputs are not available; for example, situations in which there is little, if any, market activity for the asset or liability at the

measurement date.

Fair Value Option

Financial instruments for which we elect the fair value option are carried at fair value with any changes in fair value immediately recognized as Noninterest Income - Instruments Held Under Fair Value Option, net in our statements of income. Interest income or expense recognized in our statements of income on these financial instruments is based solely on the contractual amount of interest due or unpaid, except for our zero coupon rate discount notes for which we accrete the initial discount into interest expense over the life of the discount note. Any transaction fees or costs, are immediately recognized into noninterest expense - other in our statements of income. See **Note 15 - Fair Value** to the financial statements for further details.

Cash and Cash Equivalents

We consider only cash and due from banks as cash and cash equivalents. We do not have any restricted cash.

Interest Bearing Deposits, Federal Funds Sold and Securities Purchased Under Agreements to Resell

We invest in interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold. Securities purchased under agreements to resell are accounted for as short-term collateralized loans. These investments provide short-term liquidity and are carried at amortized cost. Accrued interest receivable is presented separately in our statement of condition.

Interest bearing deposits, Federal Funds sold, and securities purchased under agreements to resell are evaluated quarterly for expected credit losses. Upon the adoption of CECL, the Bank uses the collateral maintenance provision practical expedient for our securities purchased under agreements to resell, which allows expected credit losses to be measured based on the difference between the fair value of the collateral and the investment's amortized cost, for securities purchased under agreements to resell. Consequently, a credit loss would be recognized if there is a collateral shortfall which the Bank does not believe the counterparty will replenish in accordance with its contractual terms. The credit loss would be limited to the difference between the fair value of the collateral and the investment's amortized cost. These investments provide short-term liquidity and are carried at amortized cost. If applicable, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. We did not establish an allowance for credit losses for our unsecured overnight interest bearing deposits or Federal Funds sold as of December 31, 2020 since all Federal Funds sold were repaid and all unsecured overnight interest bearing deposits were returned according to their contractual terms.

Investment Debt Securities

We record purchases and sales of investment debt securities (securities) on a trade date basis. We classify securities as either trading, available-for-sale (AFS), or held-to-maturity (HTM) based on the criteria outlined below. Classification is made at the time a security is acquired and then reassessed each subsequent reporting period.

- Securities held solely for liquidity purposes are classified as trading. We are prohibited from holding trading debt securities for speculative purposes pursuant to FHFA regulations.

- Securities held to provide additional earnings are classified as HTM. Classification as HTM requires that we have both the intent and ability to hold the security to maturity.

- Securities not classified as either trading or HTM are classified as AFS; for example, securities held for asset-liability management purposes.

Our accounting policies for trading, AFS and HTM debt securities are outlined below.

Trading debt securities are carried at fair value with any changes in fair value immediately recognized as noninterest income on trading debt securities in our statements of income. As a result, trading debt securities are not assessed for credit losses. Interest income on trading debt securities is based solely on the contractual amount of interest due, except for securities, if any, that have a zero coupon rate. For trading debt securities with a zero coupon rate, we accrete the initial discount into interest income over their life into our statements of income. Cash flows from trading debt securities, excluding cash flows from our securitized MPF Government MBS product, are presented on a gross basis and classified as investing activities in our statements of cash flows. Cash flows from our securitized MPF Government MBS product are presented on a gross basis and classified as operating activities in our statements of cash flows.

AFS securities are carried at fair value with any changes in fair value immediately recognized into Other Comprehensive Income (OCI) as net unrealized gains (losses) on AFS securities, except for AFS securities that are in a fair value hedge relationship.

Changes in fair value related to the benchmark interest rate on AFS securities in a fair value hedging relationship are immediately recognized into interest income in our statements of income together with the related change in the fair value of the derivative with the remainder of the change in fair value of the security recorded in OCI as net unrealized gains (losses) on AFS securities.

For securities classified as AFS, we evaluate an individual security for impairment on a quarterly basis. Impairment exists when the fair value of the investment is less than its amortized cost basis (i.e., in an unrealized loss position). In assessing whether a credit loss exists on an impaired security, we consider whether there would be a shortfall in receiving all cash flows contractually due. When a shortfall is considered possible, we compare the present value of cash flows expected to be collected from the security with the amortized cost basis of the security. If the present value of cash flows is less than amortized cost basis, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. The allowance is limited to the amount of the unrealized loss. If management intends to sell an AFS security in an unrealized loss position or more likely than not will be required to sell the security before expected recovery of its amortized cost, any allowance for credit losses is written off and the amortized cost basis is written down to the security's fair value at the reporting date. If management does not intend to sell an AFS security, and it is not more likely than not that management will be required to sell the debt security, then the unrealized loss is recorded as net unrealized gains (losses) on AFS securities within OCI.

For improvements in cash flows of AFS securities, interest income follows the recognition pattern pursuant to the impairment guidance in effect prior to January 1, 2020 and recoveries of amounts previously written off are recorded when received. AFS securities with an other-than-temporary impairment (OTTI) recognized pursuant to the impairment guidance in effect prior to January 1, 2020 continue to follow the prior accounting until maturity or disposition. For improvements in impaired AFS securities with an allowance for credit losses recognized after the adoption of the new guidance, the allowance for credit losses associated with recoveries may be derecognized up to its full amount. Effective January 1, 2020, the net noncredit portion of OTTI gains (losses) on AFS securities was reclassified to net unrealized gains (losses) on AFS securities within OCI.

HTM securities are carried at amortized cost. Amortized cost represents the original cost of a security adjusted for accretion, amortization, collection of cash, and either previous OTTI recognized prior to January 1, 2020 or write-downs on or subsequent to January 1, 2020 recognized into earnings (less any cumulative effect adjustments). Accrued interest receivable is presented separately in our statement of condition.

HTM securities are evaluated quarterly for expected credit losses on a pool basis unless an individual assessment is deemed necessary because the securities do not possess similar risk characteristics. In assessing whether a credit loss exists on an impaired security, we consider whether there is expected to be a shortfall in receiving all cash flows contractually due. When a shortfall is considered possible, we compare the present value of cash flows expected to be collected from the security with the amortized cost of the security. If the present value of cash flows is less than amortized cost, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. Prior to January 1, 2020, credit losses were recorded as a direct write-down of the HTM security carrying value.

For improvements in cash flows on impaired HTM securities with an allowance for credit losses recognized after the adoption of the new guidance, the allowance for credit losses associated with recoveries may be derecognized up to its full amount. For improvements in HTM securities impaired prior to January 1, 2020, interest income continues to follow the recognition pattern pursuant to the impairment guidance in effect prior to January 1, 2020 and recoveries of amounts previously written off are recorded when received. Specifically, we evaluate the yield of each impaired HTM security on a quarterly basis. We adjust the impaired security's yield for subsequent increases or decreases in its estimated cash flows, if any. The adjusted yield is then used to calculate the amount to be recognized into interest income over the remaining life of the impaired security. For improvements in impaired HTM securities with an allowance for credit losses recognized after the adoption of the new guidance, the allowance for credit losses associated with recoveries may be derecognized up to its full amount. HTM securities are evaluated quarterly for expected credit losses on a pool basis unless an individual assessment is deemed necessary because the securities do not possess similar risk characteristics. In assessing whether a credit loss exists on an impaired security, we consider whether there is expected to be a shortfall in receiving all cash flows contractually due. When a shortfall is considered possible, we compare the present value of cash flows expected to be collected from the security with the amortized cost of the security. If the present value of cash flows is less than amortized cost, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. Prior to January 1, 2020, credit losses were recorded as a direct write-down of the HTM security carrying value.

Certain changes in circumstances may cause us to change our intent to hold a security to maturity without calling into question our intent to hold other debt securities to maturity in the future. The sale or transfer of an HTM security due to changes in circumstances, such as evidence of significant credit deterioration in the issuer's creditworthiness or changes in regulatory requirements, is not considered inconsistent with its original classification. Other events that are isolated, nonrecurring, and unusual for us that could not have been reasonably anticipated by us may cause us to sell or transfer an HTM security without necessarily calling into question our intent to hold other debt securities to maturity. Further, the sale of an HTM debt security would not be considered inconsistent with its classification as HTM if (1) the sale occurs near enough to its maturity date (for

example, within three months of maturity) 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 the security occurs after the Bank has already collected a substantial portion (at least 85% of the principal outstanding due either to prepayments on the debt security or to scheduled payments on a debt security payable in equal installment (both principal and interest) over its term.

We use the interest method to amortize/accrete premiums/discounts on HTM and AFS securities into interest income in our statements of income. HTM and AFS securities having a prepayment feature amortize/accrete premiums/discounts over their estimated lives based on anticipated prepayments. We recalculate their effective yield on an ongoing basis to reflect actual payments to date and anticipated future payments. HTM and AFS securities that do not have a prepayment feature amortize/accrete premiums/discounts over their contractual life.

Gains and losses on sales of securities are included in noninterest income in our statements of income.

Advances

An advance is carried at its amortized cost, except when we elect the fair value option. Amortized cost represents the original amount funded to our member adjusted for any accretion, amortization, collection of cash, and fair value hedge accounting adjustments, if any. Fair value hedge adjustments include ongoing (open) and/or discontinued (closed) fair value hedges. We utilize the interest method to amortize/accrete over contractual life any premiums/discounts and closed fair value and/or cash flow hedging adjustments. Pursuant to CECL, accrued interest receivable is presented separately on our statement of condition except for advances in which we elected the fair value option. The advances carried at amortized cost are evaluated quarterly for expected credit losses. If deemed necessary, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. Refer to **Note 6 - Advances** and **Note 8 - Allowance for Credit Losses** for further details.

In cases where the Bank funds a new advance concurrently with or within a short period of time before or after the prepayment of an existing advance, it evaluates whether it constitutes a new advance. If the Bank concludes the difference is more than minor based on using both quantitative and qualitative assessments of the modifications made to the original contractual terms, then the advance is accounted for as a new advance. The existing advance is considered terminated with any prepayment fees and related hedging adjustments immediately recognized into interest income. Prepayment fees on advances treated as modifications are deferred and amortized as a yield adjustment to interest income

We issued advances with a zero coupon interest rate as part of our COVID-19 relief program. We imputed an interest rate based on prevailing market rates creating a discount on the advance with the offset immediately recognized to the COVID-19 program expense. We accreted the discount as a yield adjustment to interest income over the life of the advance.

MPF Loans

MPF Loans Held in Portfolio

MPF Loans for which we have the intent and ability to hold for the foreseeable future, or until maturity or payoff, are classified as MPF Loans held in portfolio. Such loans are carried on an amortized cost in our statements of condition. Amortized cost represents the initial fair value amount of the MPF delivery commitment as of the purchase or settlement date, agent fees (i.e., market risk premiums or discounts paid to or received from PFIs), if any, subsequently adjusted, if applicable, for accretion, amortization, collection of cash, charge-offs, and cumulative basis adjustments related to fair value hedges. We use the interest method to amortize yield adjustments into interest income in our statements of income over the contractual life of an MPF Loan held in portfolio. Accrued interest receivable is presented separately in our statement of condition. The Bank performs a quarterly assessment of its mortgage loans held in portfolio to estimate expected credit losses. An allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses.

Pursuant to CECL, the Bank measures expected credit losses on mortgage loans on a collective basis, pooling loans with similar risk characteristics. If a mortgage loan no longer shares risk characteristics with other loans, it is removed from the pool and evaluated for expected credit losses on an individual basis. Such loans are considered collateral dependent loans. Specifically, a loan is 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. A loan that is considered collateral dependent is measured for credit loss on an individual basis based on the fair value of the underlying property less estimated selling costs, with any shortfall recognized as an allowance for credit loss or charged-off. When developing the allowance for credit losses, the Bank measures the estimated loss over the remaining life of a mortgage loan, which also considers how the Bank's credit enhancements mitigate credit losses. If a loan is purchased at a discount, the discount does not offset the allowance for credit losses. The allowance excludes uncollectible accrued interest receivable, as the Bank writes off accrued interest receivable by reversing interest income if a mortgage loan is placed on nonaccrual status.

The Bank includes estimates of expected recoveries within the allowance for credit losses. See **Note 8 – Allowance for Credit Losses** for details on the allowance methodologies relating to mortgage loans. See **Note 7 - MPF Loans Held in Portfolio** for further details pertaining to the MPF Program and MPF Loans.

Transfers of MPF Loans held in portfolio to MPF Loans held for sale are done at the lower of cost or market. Any allowance for credit losses related to a transferred loan or loans would be reversed. A charge-off would be recognized to the extent fair value less estimated selling costs is less than the amortized cost of the loans transferred. Subsequently, the loans would be carried at the lower of cost or fair value.

MPF Loans Held for Sale

MPF Loans acquired by the Bank under the MPF Government MBS product are classified as MPF Loans held for sale (HFS). We classify MPF Loans HFS in Other Assets rather than as a separate line item in our statements of condition on the basis of materiality. Other products such as MPF Xtra and MPF Direct loans are generally bought and resold on the same day and thus are not carried on our balance sheet unless the acquisition and resale were to occur on different days. MPF Loans under the MPF Government MBS product are reclassified from MPF Loans HFS to trading debt securities upon their securitization qualifying for sales accounting treatment. Cash flows from MPF Government MBS Products are classified as operating activities in our statements of cash flows. We have elected the fair value option for these MPF Loans HFS. The difference between the price paid to a PFI for a MPF Loan HFS and the price we receive from a third party for such loan is intended to include compensation for future operating expenses incurred to administer the loans. These amounts and other related transaction fees are recognized into noninterest income - MPF fees in our statements of income as follows:

- Amounts used to pay for third party transaction costs attributable to the sale and securitization of MPF Loans HFS are recognized immediately.
- For MPF Loans HFS sold where servicing is retained by the PFI, the amounts are recognized on a straight-line basis over the life of the loan.
- For MPF Loans HFS sold where servicing is released, the amounts are recognized immediately.

Allowance for Credit Losses

We determine an allowance for credit losses, if any, for each of our portfolio segments based on CECL beginning January 1, 2020. Previously, we recognized a credit loss when it was probable a credit loss has been incurred and when the credit loss amount was reasonably estimable. A portfolio segment represents the level of disaggregation we utilize to develop and document a systematic method for determining an allowance for credit losses attributable to our financing receivables. An allowance for credit losses is a contra valuation account attributable to an on balance sheet portfolio segment. We recognize the change in our allowance for credit losses during the reporting period as a provision for (reversal of) credit losses in our statements of income. We establish a separate liability for credit losses, if any, attributable to off balance sheet financial instruments, such as standby letters of credit (also referred to herein as letters of credit), using the same approach described above for on balance sheet financial instruments. We recognize the change in credit losses attributable to off balance sheet financial instruments during the reporting period, if any, as a provision for (reversal of) credit losses in our statements of income.

Charge-off Policy

We recognize a charge-off on an MPF Loan upon the occurrence of a confirming event, which include, but are not limited to, the events shown below. The charge-off amount equals the difference between the loan's amortized cost and its fair value, less costs to sell. We use an Automated Valuation Methodology (AVM) to determine the fair value of our impaired conventional MPF Loans held in portfolio, including troubled debt restructurings, and REO. The charge-off policy does not apply to Government Loans which are guaranteed.

- When a loan is 180 days or more past due and its fair value, less cost to sell, is less than the loan's amortized cost, except when there is a presumption that the loan's amortized cost will be collected.
- When a borrower is in bankruptcy, loans are written down to the fair value of the collateral, less costs to sell, within 60 days of receipt of the notification of filing from the bankruptcy court or within the delinquency time frames specified in the guidance, whichever is shorter. A loan is not written down if the loan is performing, the borrower continues making payments on the loan, and repayment in full is expected.
- Fraudulent loans, not covered by any existing representations and warranties in the loan purchase agreement, are charged off within 90 days of discovery of the fraud, or within the delinquency time frames specified in the adverse

classification guidance, whichever is shorter.

Past Due

In determining a single family mortgage loan's delinquency status, the Bank may use one of two methods to recognize partial payments. A payment equivalent to 90 percent or more of the contractual payment may be considered a full payment in computing delinquency. Alternatively, the Bank may use the paid through date. In the latter case, credit is given for aggregate partial payments received.

If the Bank can clearly document that the delinquent loan is well secured and in the process of collection, such that collection will occur regardless of delinquency status, then the loan need not be adversely classified. A well secured loan is collateralized by a perfected security interest in real property with an estimated fair value, less cost to sell, sufficient to recover the amortized cost in the loan. In the process of collection means that either a collection effort or legal action is proceeding and is reasonably expected to result in recovery of the loan balance or restoration of the loan to a current status, generally within the next 90 days. Other exceptions to this adverse classification policy might be for loans that are supported by valid insurance claims, like federal loan guarantee programs.

Nonaccrual

Conventional MPF Loans held in portfolio are placed on nonaccrual when they become 90 days past due and/or are "adversely classified" - that is, when a loan is classified as "Substandard", "Doubtful", or "Loss".

An adverse classification means that such a loan is not considered well secured and is in the process of collection. All previously accrued but not collected interest is reversed from interest income. Subsequent accruals of interest income are discontinued. Ongoing recognition of any discounts, premiums, deferred loan origination fees or costs, and hedge basis adjustments also are discontinued.

As a general rule, a nonaccrual asset may be restored to accrual status when (1) none of its principal and interest is due and unpaid, and the Bank expects repayment of the remaining contractual principal and interest, or (2) when it otherwise becomes well secured and in the process of collection.

Troubled Debt Restructurings (TDRs)

We consider a troubled debt restructuring of a financing receivable to have occurred when we grant a concession to a borrower that we would not otherwise consider for economic or legal reasons related to the borrower's financial difficulties. Insignificant delays in payment of 6 months or less are not considered troubled debt restructurings. Troubled debt restructurings include loans that resulted from borrowers that filed for Chapter 7 bankruptcy in which the bankruptcy court discharged the borrower's obligation to us and the borrower did not reaffirm the debt. We place conventional MPF Loans that are deemed to be troubled debt restructurings on nonaccrual status. MPF Loans that are modified as part of a troubled debt restructuring or are in bankruptcy may be returned to accrual status provided such loans have been performing for 6 consecutive months, none of its contractual principal and interest is due and unpaid, and we expect repayment of the remaining contractual interest and contractual principal.

Troubled Debt Restructuring Relief - On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) was signed into law. Section 4013 of the CARES Act provides optional, temporary relief from the accounting and reporting requirements for TDRs for certain loan modifications for which borrowers were adversely affected by the Coronavirus Disease 2019 (COVID-19) pandemic (hereinafter referred to as COVID-related modifications) granted to borrowers that were not more than 30 days past due on payments as of December 31, 2019. Specifically, the CARES Act provides that a financial institution may elect to suspend: (1) the requirements under GAAP for certain loan modifications that would otherwise be categorized as a TDR, and (2) any determination that such loan modifications would be considered a TDR, including the related impairment for accounting purposes. TDR relief applies to COVID-related modifications made from March 1, 2020, until the earlier of December 31, 2020. or 60 days following the termination of the national emergency declared by the President of the United States on March 13, 2020. On December 27, 2020, the Consolidated Appropriations Act, 2021, was signed into law, extending the applicable period to the earlier of January 1, 2022, or 60 days following the termination of the national emergency declared on March 13, 2020. Starting in the second quarter of 2020, we elected to apply the TDR relief provided by the CARES Act, and such modifications to loans outstanding as of December 31, 2020 were immaterial.

As such, all COVID-related modifications meeting the provisions of the CARES Act are excluded from TDR classification and accounting, and we consider these loans to have a current payment status. Alternatively, COVID-related modifications that do not meet the provisions of the CARES Act continue to be assessed for TDR classification under our existing accounting policies. Additionally, we continue to apply our delinquency, non-accrual loans, and charge-off policies during the forbearance plan period.

Off-Balance Sheet Credit Exposures

The Bank evaluates its off-balance sheet credit exposures on a quarterly basis for expected credit losses. If deemed necessary, we establish a separate liability for credit losses, if any, attributable to off-balance sheet financial instruments, such as standby letters of credit (also referred to herein as letters of credit), using the same approach described above for on balance sheet financial instruments. We recognize the change in credit losses attributable to off-balance sheet financial instruments during the reporting period, if any, as a provision for or (reversal of) credit losses in our statements of income.

Refer to **Note 8 - Allowance for Credit Losses** for further details.

Derivatives

In August of 2017, the FASB issued *Targeted Improvements to Accounting for Hedging Activities (ASU 2017-12)*. Upon adoption as of January 1, 2019, we modified the risk being hedged of certain fair value hedges from contractual coupon interest rate to benchmark rate component, improving hedge effectiveness. The opening cumulative adjustment related to modifying the risk being hedged was an increase to retained earnings of $16 million and a corresponding increase to the cumulative basis adjustment (carrying value) of the hedged items. The opening adjustment to retained earnings related to ineffectiveness recognized in prior periods was not material. Prior reporting periods were not restated. Beginning in 2019, we presented hedge ineffectiveness and net interest settlements as either interest income or interest expense in our statements of income. Previously, we presented such amounts in derivatives and hedging activities in our statements of income. For cash flow hedges, we recognize changes in fair value on the hedged item in AOCI until they are required to be reclassified into our statements of income - that is, amounts recorded in AOCI are reclassified either to interest income or interest expense depending on the hedged item during the period in which the hedged transaction affects earnings.

We carry all derivatives at fair value in our statements of condition. We designate derivatives either as fair value hedges, cash flow hedges, or economic hedges. We use fair value hedges to manage our exposure to changes in fair value of (1) a recognized asset or liability or (2) an unrecognized firm commitment attributable to changes in a benchmark interest rate. Our cash flow hedge strategy is to hedge the total net proceeds received from rolling forecasted zero-coupon discount note issuances attributable to changes in the benchmark interest rate by entering into interest rate swaps to mitigate such risk. We use economic hedges in cases where hedge accounting treatment is not permitted or achievable.

Accounting for Variation Margin Payments - We account for variation margin payments made to or received by the DCOs (Derivatives Clearing Organization) through our FCMs (Futures Commission Merchant) as settlements to our cleared derivative assets and derivative liabilities.

Derivative Hedge Accounting - We apply hedge accounting to qualifying hedge relationships. A qualifying hedge relationship exists when a derivative hedging instrument is expected to effectively offset changes in fair values, cash flows, or underlying risk of the hedged item during the term of the hedge relationship. We prepare formal contemporaneous documentation at inception of the hedge relationship to support that the hedge relationship qualifies for hedge accounting treatment and assess hedge effectiveness on an ongoing basis.

We immediately recognize changes in fair values for both the derivative hedging instrument and the related hedged item beginning on the derivative hedging instrument's trade date. For fair value hedges, changes in fair value on the hedged item are recognized as a cumulative basis adjustment and are included in the amortized cost basis of the asset or liability being hedged. For cash flow hedges, the changes in fair value of the hedging instrument are recorded to AOCI first and reclassified into earnings (net interest income) as the hedged item affects earnings.

Economic Hedges - Changes in fair value on economic hedges are immediately recognized as noninterest income on derivatives and hedging activities in our statements of income. Accrual of net interest settlements on economic hedges are recognized as noninterest income on derivatives and hedging activities in our statements of income.

MPF Delivery Commitments - Commitments to purchase MPF Loans are carried at fair value as a derivative asset or derivative liability, with changes in fair value immediately recognized as noninterest income on derivatives and hedging activities in our statements of income.

Advance Commitments - An unhedged advance commitment on an advance we intend to hold for investment purposes upon funding is accounted for as a firm commitment rather than a derivative. Firm commitments are accounted for off balance sheet rather than carried at fair value. Changes in fair value related to an advance commitment in a fair value hedge relationship are immediately recognized in interest income.

We discontinue hedge accounting treatment prospectively for an existing fair value or cash flow hedge if any one of the following occurs:

- Any hedge criterion is no longer met.
- The derivative expires or is sold, terminated, or exercised.
- We voluntarily remove the designation as a hedge.

Refer to **Note 9 - Derivatives and Hedging Activities** for additional details.

Consolidated Obligations

Consolidated obligations consist of discount notes and consolidated obligation bonds. Consolidated obligations are the joint and several liability of the FHLBs.

We carry consolidated obligations on an amortized cost basis, except when we elect the fair value option. Amortized cost basis represents the amount funded to us adjusted for any premiums and discounts, concession fees, and cumulative basis adjustments, if any, related to ongoing (open) and/or discontinued (closed) fair value hedges (fair value hedging adjustments). Cumulative basis adjustments represent the changes in fair value of the hedged items, therefore, they are only applicable to fair value hedges. For cash flow hedges, the changes in fair value of the hedging instrument are recorded to OCI first. We use the interest method to amortize/accrete premiums/discounts, concession fees, and hedging adjustments on consolidated obligations into interest expense in our statements of income. The amortization/accretion period for a callable consolidated obligation is over its estimated life. The amortization/accretion period for a consolidated obligation that is noncallable or that has a zero-coupon rate is over its contractual life. We immediately recognize any remaining premiums/discounts, concession fees, and any fair value and/or hedging adjustments attributable to a consolidated obligation that is called into interest expense in our statements of income.

We consider our joint and several liability for consolidated obligations as a related party guarantee. GAAP guidance pertaining to the initial recognition and measurement of guarantees does not apply to related party guarantees. As a result, we did not recognize an initial liability for our joint and several liability at fair value. We would accrue a liability if subsequently we expect to pay any amounts on behalf of other FHLBs under the joint and several liability.

See **Note 10 - Consolidated Obligations** to the financial statements for further details.

Capital and Mandatorily Redeemable Capital Stock (MRCS)

Capital stock is issued and recorded at par. We also record the repurchase of our capital stock from our members at par because our capital stock can only be acquired and redeemed or repurchased at par value. It is not publicly traded and no market mechanism exists for the exchange of our capital stock outside our cooperative structure. The capital stock repurchased is retired. We recognize dividends on our capital stock on the date they are declared by our Board of Directors.

We reclassify capital stock from equity to mandatorily redeemable capital stock (MRCS), a liability on our statements of condition, once we become unconditionally obligated to redeem capital stock by transferring cash at a specified or determinable date (or dates) or upon an event certain to occur. Capital stock is reclassified to MRCS at fair value. The fair value of capital stock subject to mandatory redemption is its par value (as indicated by contemporaneous member purchases and sales at par value) plus any dividends related to the capital stock which are also reclassified as a liability, accrued at the expected dividend rate, and reported as a component of interest expense.

Refer to **Note 12 - Capital and Mandatorily Redeemable Capital Stock (MRCS)** for further details.

Operating Lease

In February of 2016, the FASB issued *Leases (ASU 2016-02)* that became effective January 1, 2019. Upon adoption, we applied the guidance to the beginning of January 1, 2019, using the modified retrospective approach. Prior financial statements were not restated. There was no cumulative effect adjustment to the opening balance of retained earnings as of January 1, 2019. The guidance required us to recognize and measure our operating leases with terms that exceed 12 months as right-of-use assets, in our statements of condition. That amount, which was $11 million, was recognized in other assets and other liabilities as of January 1, 2019. Expenses attributable to our leases are included in noninterest expense - operating expenses in our statements of income. Payments related to our operating leases are classified within operating activities in our statements of cash flows.

In the fourth quarter of 2019, we recorded an operating lease asset and lease liability of $56 million related to new office space at 433 West Van Buren Street, Chicago, Illinois, to replace our existing office space. The new lease agreement terminates in December 2035, subject to options to extend the lease or terminate early.

At December 31, 2020 our operating lease net asset was $53 million and our lease liability was $56 million. We recognized noninterest expense of lease amortization of $3 million for the year ended December 31, 2020.

Pentegra Defined Benefit (DB) Plan for Financial Institutions (the Pension Plan)

We participate in the Pentegra Defined Benefit (DB) Plan for Financial Institutions (the Pension Plan), a tax-qualified defined-benefit pension plan. We account for the Pension Plan as a multiemployer plan since contributions made by us may be used to provide benefits to participants of other participating employers. Net pension cost recognized into our statements of income includes our minimum required contribution plus administrative fees. A prepaid pension asset is recognized when our contributions are in excess of 100% of our minimum required contribution while a liability is recognized for contributions due and unpaid at the end of the reporting period. Refer to **Note 14 - Employee Retirement Plans** for further details.

The following amendments to GAAP became effective March 12, 2020:

In March of 2020, the FASB issued Accounting Standards Update (ASU): Reference Rate Reform (Topic 848) Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASU 2020-04). The amendments provide optional expedients and exceptions for applying generally accepted accounting principles (GAAP) to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments apply for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. In January of 2021, the FASB issued ASU 2021-01 Reference Rate Reform (Topic 848) Scope, that refined the scope of Topic 848 and clarified some of its provisions. The amendments permit us to elect certain optional expedients and exceptions when accounting for derivative contracts and certain hedging relationships affected by changes in the interest rates used for discounting cash flows, for computing variation margin settlements, and for calculating price alignment interest (PAI) in connection with reference rate reform activities underway in global financial markets (the “discounting transition”). In this regard, during the fourth quarter of 2020, we elected optional expedients specific to discounting transition on a retrospective basis, which did not have a material effect on our financial statements.

Optional Expedients for Contract Modifications:

- Includes replacement of reference rate and contract modifications to add or change fallback provisions.
- Modifications of receivables or debt may be accounted for as yield adjustments. No gain or loss would be recognized.
- Modifications do not require reassessment of whether embedded derivative should be bifurcated.
- Election must be applied consistently for all eligible contracts.

Optional Expedients for Fair Value Hedges:

- Change in benchmark rate is permitted. A change to the cumulative fair value basis adjustment may need to be recognized in current earnings.
- Certain qualifying conditions for the shortcut method may be disregarded for the remainder of the fair value hedging relationship to continue the shortcut method.
- The optional expedient may be elected on an individual hedging relationship basis.

Optional Expedients for Cash Flow Hedges:

- The designated hedged risk may change for a forecasted transaction and we may continue to apply hedge accounting if the hedge remains highly effective. Certain criteria need to be met, for example, if the designated hedged interest rate risk is a rate that is affected by reference rate reform.
- For cash flow hedges for which either the hedging instrument or hedged forecasted transactions reference a rate that is expected to be affected by reference rate reform, an entity may adjust how it applies the method used to initially and subsequently assess hedge effectiveness.
- For cash flow hedges of portfolios of forecasted transactions that reference a rate that is expected to be affected by reference rate reform, an entity may disregard the requirement that the group of individual transactions must share the same risk exposure for which they are designated as being hedged.
- The optional expedients for cash flow hedging relationships may be elected on an individual hedging relationship basis.

The amendments apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another

reference rate expected to be discontinued because of reference rate reform. The expedients and exceptions provided by the amendments do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for hedging relationships existing as of December 31, 2022, that we elected certain optional expedients for and that are retained through the end of the hedging relationship.

Optional One-Time Election to Sell or Transfer Debt Securities Classified as Held-to-Maturity (HTM)

During the fourth quarter of 2020, we adopted a provision of the Accounting Standards Update entitled Facilitation of the Effects of Reference Rate Reform on Financial Reporting that provides a one-time election to sell HTM securities that reference a rate affected by reference rate reform and that were classified as HTM before January 1, 2020.

In October 2020, we adopted the one-time election provision to sell HTM private label mortgage backed securities (PLMBS) to reduce our exposure to LIBOR. We also sold certain LIBOR-affected AFS securities at this time. Specifically:

- We sold HTM PLMBS that had an amortized cost of $296 million, and recognized a net realized gain of $101 million.
- We sold AFS PLMBS with an amortized cost basis of $26 million, and recognized a net realized gain of $6 million.

In October 2020, we also sold certain HTM PLMBS in which the sale of the securities occurred after the Bank had already collected at least 85% of the principal outstanding at acquisition. These HTM PLMBS had an amortized cost of $6 million, and we recognized a net realized gain of $2 million from the sale.

Neither of the above HTM sales resulted in the tainting of our held-to-maturity portfolio.

We expect to elect the optional expedients for all contract modifications related to LIBOR and certain optional expedients related to hedging relationships. At this time we do not expect these optional elections to have a material financial statement impact.

Note 3 – Recently Issued but Not Yet Adopted Accounting Standards

There are no recently issued but not yet adopted accounting standards which may have an effect on our financial statements.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 4 – Interest Income and Interest Expense

The following table presents interest income and interest expense for the periods indicated:

For the years ended December 31,	**2020**	2019	2018
Interest income -			
Trading	**$ 107**	$ 85	$ 35
Available-for-sale interest income	**313**	481	436
Available-for-sale prepayment fees	**2**	3	32
Available-for-sale	**315**	484	468
Held-to-maturity	**75**	135	175
Investment debt securities	**497**	704	678
Advance interest income	**535**	1,329	1,156
Advance prepayment fees, net	**51**	4	1
Advances	**586**	1,333	1,157
MPF Loans held in portfolio	**295**	313	247
Federal Funds sold and securities purchased under agreements to resell	**44**	253	208
Interest bearing deposits	**8**	28	20
Other interest bearing assets	**5**	4	5
Interest income	**1,435**	2,635	2,315
Interest expense -			
Consolidated obligations -			
Discount notes	**307**	1,038	857
Bonds	**516**	1,109	922
Other interest bearing liabilities	**17**	30	23
Interest expense	**840**	2,177	1,802
Net interest income	**595**	458	513
Provision for (reversal of) credit losses	**7**	—	—
Net interest income after provision for (reversal of) credit losses	**$ 588**	$ 458	$ 513

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 5 – Investment Debt Securities

We classify debt securities as either trading, held-to-maturity (HTM), or available-for-sale (AFS). Our security disclosures within these classifications are disaggregated by major security types as shown below. Our major security types are based on the nature and risks of the security.

- U.S. Government & other government related may consist of the sovereign debt of the United States; debt issued by government sponsored enterprises (GSE); debt issued by the Tennessee Valley Authority; and securities guaranteed by the Small Business Administration.
- Federal Family Education Loan Program - asset-backed securities (FFELP ABS).
- GSE residential-mortgage backed securities (MBS) - issued by Fannie Mae and Freddie Mac.
- Government guaranteed residential MBS.
- SOFR Adjustable Rate Mortgages (SARMs).
- State or local housing agency obligations.

We have no allowance for credit losses on our investment debt securities and we have elected to exclude accrued interest receivable from the amortized cost in the following HTM tables. See **Note 8 - Allowance for Credit Losses** for further details on these amounts.

Pledged Collateral

We disclose the amount of investment debt securities pledged as collateral pertaining to our derivatives activity on our statements of condition. See **Note 9 - Derivatives and Hedging Activities** for further details.

Trading Debt Securities

The following table presents the fair value of our trading debt securities.

As of	**December 31, 2020**	December 31, 2019
U.S. Government & other government related	**$ 4,612**	$ 4,636
Residential MBS		
GSE	**8**	11
Government guaranteed	**1**	1
Trading debt securities	**$ 4,621**	$ 4,648

The following table presents our gains and losses on trading debt securities recorded in Noninterest Income Other.

For the years ended December 31,	**2020**	2019	2018
Net unrealized gains (losses) on securities held at period end	**$ (2)**	$ 5	$ 10
Net realized gains (losses) on securities sold/matured during the period	**17**	19	5
Net gains (losses) on trading debt securities	**$ 15**	$ 24	$ 15

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Available-for-Sale Debt Securities (AFS)

The following table presents the amortized cost and fair value of our AFS debt securities.

	Amortized Cost Basis [a]	Gross Unrealized Gains in AOCI	Gross Unrealized (Losses) in AOCI	Net Carrying Amount and Fair Value
As of December 31, 2020				
U.S. Government & other government related	**$ 1,535**	**$ 83**	**$ —**	**$ 1,618**
State or local housing agency	**14**	**1**	**—**	**15**
FFELP ABS	**2,922**	**121**	**(9)**	**3,034**
Residential MBS				
GSE	**13,413**	**147**	**(59)**	**13,501**
Government guaranteed	**261**	**8**	**—**	**269**
Available-for-sale debt securities	**$ 18,145**	**$ 360**	**$ (68)**	**$ 18,437**
As of December 31, 2019				
U.S. Government & other government related	$ 749	$ 32	$ —	$ 781
State or local housing agency	14	1	—	15
FFELP ABS	3,219	140	(7)	3,352
Residential MBS				
GSE	11,600	19	(97)	11,522
Government guaranteed	352	10	—	362
Private label	29	6	—	35
Available-for-sale debt securities	$ 15,963	$ 208	$ (104)	$ 16,067

[a] Includes adjustments made to the cost basis of an investment for accretion, amortization, net charge-offs, fair value hedge accounting adjustments, and includes accrued interest receivable of $53 million and $57 million at December 31, 2020 and December 31, 2019.

We had sales of AFS debt securities for the periods presented. We sold PLMBS during October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies**.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Held-to-Maturity Debt Securities (HTM)

The following table presents the amortized cost, carrying amount, and fair value of our HTM debt securities.

	Amortized Cost	Noncredit OTTI Recognized in AOCI [a]	Net Carrying Amount	Gross Unrecognized Holding Gains	Gross Unrecognized Holding (Losses)	Fair Value
As of December 31, 2020						
U.S. Government & other government related	**$ 1,098**	**$ —**	**$ 1,098**	**$ 24**	**$ —**	**$ 1,122**
Residential MBS						
GSE	**285**	**—**	**285**	**31**	**—**	**316**
Government guaranteed	**94**	**—**	**94**	**2**	**—**	**96**
Other	**$ 14**	**$ —**	**$ 14**	**$ 1**	**$ —**	**$ 15**
Held-to-maturity debt securities	**$ 1,491**	**$ —**	**$ 1,491**	**$ 58**	**$ —**	**$ 1,549**
As of December 31, 2019						
U.S. Government & other government related	$ 1,129	$ —	$ 1,129	$ 18	$ (1)	$ 1,146
State or local housing agency	4	—	4	—	—	4
Residential MBS						
GSE	788	—	788	31	—	819
Government guaranteed	167	—	167	2	—	169
Private label	360	(85)	275	184	—	459
Other	18	—	18	—	—	18
Held-to-maturity debt securities	$ 2,466	$ (85)	$ 2,381	$ 235	$ (1)	$ 2,615

[a] Includes adjustments made to the cost basis of an investment for accretion, amortization, and/or net charge-offs.

We had sales of HTM debt securities for the periods presented. We sold third party PLMBS during October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies**.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Interest Rate Payment Terms

The following table presents the interest rate payment terms of AFS and HTM debt securities at amortized cost basis for the reporting periods indicated.

	Available-for-Sale		Held-to-Maturity	
As of December 31,	**2020**	2019	**2020**	2019
Non-MBS				
Fixed-rate	**$ 1,546**	$ 760	**$ 1,097**	$ 1,130
Variable-rate	**2,925**	3,222	**1**	3
Residential MBS				
Fixed-rate	**13,339**	11,589	**194**	682
Variable-rate	**335**	392	**199**	651
Total	**$ 18,145**	$ 15,963	**$ 1,491**	$ 2,466

Contractual Maturity

The maturity of our AFS and HTM debt securities is detailed in the following table.

	Available-for-Sale		Held-to-Maturity	
As of December 31, 2020	**Amortized Cost Basis**	**Net Carrying Amount and Fair Value**	**Net Carrying Amount**	**Fair Value**
Non ABS/MBS Year of Maturity -				
Due in one year or less	**$ 2**	**$ 2**	**$ 675**	**$ 675**
Due after one year through five years	**11**	**12**	**31**	**32**
Due after five years through ten years	**485**	**508**	**220**	**230**
Due after ten years	**1,051**	**1,111**	**172**	**185**
ABS and MBS	**16,596**	**16,804**	**393**	**427**
Total debt securities	**$ 18,145**	**$ 18,437**	**$ 1,491**	**$ 1,549**

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following table presents the aging of our investments for the current year in greater detail by investment type, as well as the carrying amounts for the previous two years. It also discloses the yields by maturity categories for the current year.

	2020					2019	2018
As of December 31,	**Due in one year or less**	**Due one through five years**	**Due five through ten years**	**Due after ten years**	**Carrying Amount**	Carrying Amount	Carrying Amount
Trading debt securities							
U.S. Government & other governmental related	**$ 4,412**	**$ 200**	**$ —**	**$ —**	**$ 4,612**	$ 4,636	$ 3,460
Residential MBS							
GSE	**—**	**—**	**—**	**8**	**8**	11	17
Government guaranteed	**—**	**1**	**—**	**—**	**1**	1	1
Trading debt securities	**4,412**	**201**	**—**	**8**	**4,621**	4,648	3,478
Yield on trading debt securities	**2.00 %**	**0.13 %**	**2.61 %**	**4.37 %**	**1.92 %**	1.93 %	2.01 %
AFS debt securities							
U.S. Government & other governmental related	**—**	**4**	**508**	**1,106**	**1,618**	781	543
State or local housing agency	**2**	**8**	**—**	**5**	**15**	15	17
FFELP ABS	**—**	**—**	**—**	**3,034**	**3,034**	3,352	3,781
Residential MBS							
GSE	**—**	**—**	**9,504**	**3,997**	**13,501**	11,522	9,574
Government guaranteed	**—**	**—**	**—**	**269**	**269**	362	658
Private label	**—**	**—**	**—**	**—**	**—**	35	41
AFS debt securities	**2**	**12**	**10,012**	**8,411**	**18,437**	16,067	14,614
Yield on AFS debt securities	**1.95 %**	**3.56 %**	**3.18 %**	**2.80 %**	**3.01 %**	3.26 %	3.86 %
HTM debt securities							
U.S. Government & other governmental related	**675**	**30**	**220**	**173**	**1,098**	1,129	1,305
State or local housing agency	**—**	**—**	**—**	**—**	**—**	4	6
Residential MBS							
GSE	**—**	**16**	**—**	**269**	**285**	788	1,141
Government guaranteed	**—**	**1**	**2**	**91**	**94**	167	369
Private label	**—**	**—**	**—**	**—**	**—**	275	370
Other	**—**	**—**	**—**	**14**	**14**	18	22
HTM debt securities	**675**	**47**	**222**	**547**	**1,491**	2,381	3,213
Yield on HTM debt securities	**0.61 %**	**3.18 %**	**3.43 %**	**3.97 %**	**2.34 %**	3.13 %	3.42 %
Total investment debt securities	**5,089**	**260**	**10,234**	**8,966**	**24,549**	23,096	21,305
Interest bearing deposits	**855**				**855**	1,680	775
Federal Funds sold	**4,125**				**4,125**	7,356	7,704
Securities purchased under agreements to resell	**10,120**				**10,120**	6,750	2,900
Investments	**$ 20,189**	**$ 260**	**$ 10,234**	**$ 8,966**	**$ 39,649**	$ 38,882	$ 32,684

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Aging of Unrealized Temporary Losses

The following table presents unrealized temporary losses on our AFS portfolio for periods less than 12 months and for 12 months or more. We recognized no credit losses on these unrealized loss positions. Refer to the **Credit Loss Analysis** in the following section for further discussion. In the tables below, in cases where the gross unrealized losses for an investment category are less than $1 million, the losses are not reported.

	Less than 12 Months		12 Months or More		Total	
	Fair Value	Gross Unrealized (Losses)	Fair Value	Gross Unrealized (Losses)	Fair Value	Gross Unrealized (Losses)
Available-for-sale debt securities						
As of December 31, 2020						
U.S. Government & other government related	**$ —**	**$ —**	**$ 2**	**$ —**	**$ 2**	**$ —**
FFELP ABS	**21**	**—**	**459**	**(9)**	**480**	**(9)**
Residential MBS						
GSE	**102**	**(1)**	**6,327**	**(58)**	**6,429**	**(59)**
Available-for-sale debt securities	**$ 123**	**$ (1)**	**$ 6,788**	**$ (67)**	**$ 6,911**	**$ (68)**
As of December 31, 2019						
U.S. Government & other government related	$ 44	$ —	$ 2	$ —	$ 46	$ —
FFELP ABS	512	(7)	—	—	512	(7)
Residential MBS						
GSE	3,426	(25)	4,412	(72)	7,838	(97)
Government guaranteed	1	—	—	—	1	—
Private label	—	—	5	—	5	—
Available-for-sale debt securities	$ 3,983	$ (32)	$ 4,419	$ (72)	$ 8,402	$ (104)

Credit Loss Analysis

We recognized no credit losses on HTM or AFS debt securities for the periods presented. We do not intend to sell AFS securities (with the exception of PLMBS sold in October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies**) and we believe it is more likely than not, that we will not be required to sell them prior to recovering their amortized cost. We expect to recover the entire amortized cost on these securities.

Accretion on Other-Than-Temporary Impairment

Increases in cash flows expected to be collected and recognized into interest income on prior years' credit related OTTI charges on our AFS or HTM PLMBS due to accretion were $18 million, $27 million and $35 million for the years ended 2020, 2019 and 2018. As discussed in **Note 2 – Summary of Significant Accounting Policies** we sold PLMBS during October 2020.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 6 – Advances

We offer a wide range of fixed and variable rate advance products with different maturities, interest rates, payment characteristics and options.

We have no allowance for credit losses on our advances and we have elected to exclude accrued interest receivable from the amortized cost in the following tables. See **Note 8 - Allowance for Credit Losses** for further details on these amounts.

The following table presents our advances by terms of contractual maturity and the related weighted average contractual interest rate. For amortizing advances, contractual maturity is determined based on the advance's amortization schedule. Actual maturities may differ from contractual maturities because some borrowers have the right to call or prepay advances with or without penalties.

As of December 31, 2020	Amount	Weighted Average Contractual Interest Rate
Due in one year or less	$ 13,405	0.58 %
One to two years	4,142	1.03 % [a]
Two to three years	9,508	0.62 %
Three to four years	6,536	0.74 %
Four to five years	3,664	1.49 %
More than five years	8,565	1.75 %
Par value	$ 45,820	0.94 %

[a] The weighted average interest rate is relatively high when compared to other categories due to a majority of advances in this category consisting of fixed rate advances of original maturities of 2 to 5 years that were thus issued in a previously higher rate environment.

The following table presents our advances by terms of contractual maturity and reconciles the par value of our advances to the carrying amount on our statements of condition as of the dates indicated.

As of	December 31, 2020	December 31, 2019
Fixed-rate due in one year or less	$ 9,290	$ 10,089
Fixed-rate due after one year	18,684	14,280
Total fixed-rate	27,974	24,369
Variable-rate due in one year or less	4,116	8,248
Variable-rate due after one year	13,730	17,505
Total variable-rate	17,846	25,753
Par value	45,820	50,122
Fair value hedging adjustments	760	344
Other adjustments	115	42
Advances	$ 46,695	$ 50,508

The following advance borrowers exceeded 10% of our advances outstanding:

As of December 31, 2020	Par Value	% of Total Outstanding
One Mortgage Partners Corp. [a]	$ 11,000	24.0 %
State Farm Mutual Automobile Insurance Company	4,791	10.5 %

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

Notes to Financial Statements
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Note 7 – MPF Loans Held in Portfolio

We acquire MPF Loans from PFIs to hold in our portfolio and historically purchased participations in pools of eligible mortgage loans from other FHLBs (MPF Banks). MPF Loans that are held in portfolio are fixed-rate conventional and Government Loans secured by one-to-four family residential properties with maturities ranging from 5 years to 30 years or participations in pools of similar eligible mortgage loans from other MPF Banks.

The following table presents information on MPF Loans held in portfolio by contractual maturity at the time of purchase. We have an allowance for credit losses on our MPF Loans and we have elected to exclude accrued interest receivable from the amortized cost in the following tables. See **Note 8 - Allowance for Credit Losses** for further details on these amounts.

As of	**December 31, 2020**	December 31, 2019
Medium term (15 years or less)	**$ 1,403**	$ 856
Long term (greater than 15 years)	**8,453**	8,974
Unpaid principal balance	**9,856**	9,830
Net premiums, credit enhancement, and/or deferred loan fees	**177**	163
Fair value hedging and delivery commitment basis adjustments	**8**	8
MPF Loans held in portfolio, before allowance for credit losses	**10,041**	10,001
Allowance for credit losses on MPF Loans	**(3)**	(1)
MPF Loans held in portfolio, net	**$ 10,038**	$ 10,000
Conventional mortgage loans	**$ 8,979**	$ 8,919
Government Loans	**877**	911
Unpaid principal balance	**$ 9,856**	$ 9,830

The above table excludes MPF Loans acquired under the MPF Xtra, MPF Direct, and MPF Government MBS products. See **Note 2 - Summary of Significant Accounting Policies** for information related to the accounting treatment of these off balance sheet MPF Loan products.

COVID-19 Forbearance

Our servicers may grant a forbearance period to borrowers who have requested forbearance based on COVID-19 related difficulties regardless of the status of the loan at the time of the request. We continue to apply our accounting policy for past due loans and charge-offs to loans during the forbearance period whether it be formal or informal. A charge-off is not recognized when there is a presumption we will collect on a loan even if it is 180 days past due. The accrual status for loans under forbearance will be driven by the past due status of the loan as the legal terms of the contractual arrangement have not been modified.

As of December 31, 2020, there were $255 million in unpaid principal balance (UPB) of conventional loans in a forbearance plan as a result of COVID-19. $101 million in UPB of these conventional loans in forbearance had a current payment status, $13 million were 30 to 59 days past due, $13 million were 60 to 89 days past due, and $128 million were greater than 90 days past due and in nonaccrual payment status. These loans in forbearance represents 3% of our MPF Loans held in portfolio at December 31, 2020.

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Note 8 – Allowance for Credit Losses

See **Note 2 - Summary of Significant Accounting Policies** for further details regarding our accounting policies pertaining to credit losses that are applicable to each of our portfolio segments discussed below. Our credit analysis determines whether an asset is classified as adversely classified. An asset not adversely classified is supported by an appropriate credit analysis that documents the quality of a loan or an investment debt security, as well as ongoing analyses that demonstrate the obligor's continued repayment capacity. In such cases, the loan or investment security will not be adversely classified as substandard, doubtful, or loss. Adversely classified loans or investment debt securities are expected to have credit losses and thus will have an allowance.

We have the following portfolio segments:

Nongovernment related

- Member credit products (advances, letters of credit and other extensions of credit to borrowers)
- Conventional MPF Loans held in portfolio
- Federal Funds Sold and Securities Purchased Under Agreements to Resell
- Community First Fund (the Fund)
- Municipal Securities and Standby Bond Purchase Agreements

Member Credit Products

Member Credit Products encompass secured credit extensions to members including advances and letters of credit. The Credit Department monitors the financial performance of members at least quarterly, classifies credit extensions in accordance with our asset classification approach, monitors that our credit outstanding is sufficiently well collateralized and recommends credit reserves against individual credit exposures if needed.

We did not record an allowance for credit losses related to our advances nor a liability for our letters of credit as of the end of this reporting period based on the factors outlined below.

- None of our Member Credit Products portfolio was adversely classified.
- Loss mitigation techniques, which include, but are not limited to the following:
  - Credit monitoring which includes underwriting; credit limits; and ongoing collateral monitoring
  - Collateral policies or monitoring which include:
    - Rights to collateral, nature of the collateral and future changes to collateral.
    - Complying with regulatory requirements to fully collateralize member credit products, which incorporate the associated collateral haircut process. Collateral value represents the borrowing capacity assigned to pledged collateral and does not imply fair value.
- Our credit outstanding is sufficiently well collateralized as of the end of this reporting period - that is, the applicable agreement with a member requires that the member provide collateral value equal to its credit outstanding (unless we specifically require more for a particular member - for example, due to the member's risk rating based on our credit analyses of our members). Further, we require our member to pledge additional collateral if we perceive additional risk.
- Credit risk mitigation efforts such as collateral reviews to confirm the collateral meets eligibility requirements and ongoing monitoring to verify the sufficiency of collateral to mitigate exposure from member credit products;
- All payments due under the contractual terms have been received as of the end of this reporting period. In particular, no Member Credit Products were past due, on nonaccrual status, involved in a troubled debt restructuring, or otherwise considered impaired.

Our long history of no credit losses on advances and letters of credit along with loss mitigation techniques are sufficient to support a conclusion of zero allowance for credit losses as of the end of this reporting period.

Conventional MPF Loans Held in Portfolio

We measure expected credit losses on conventional MPF Loans held in portfolio on a collective basis, pooling loans with similar risk characteristics. If an MPF Loan no longer shares risk characteristics with other loans in the pool (for example, the loan has become collateral dependent), it is removed from the pool and evaluated for expected credit losses on an individual basis.

The analysis on a pool basis includes consideration of various loan portfolio characteristics, such as past performance, current conditions, and reasonable and supportable forecasts of expected economic credit losses. The model projects cash flows of estimated expected credit losses over the remaining life of an MPF Loan, which also considers how credit enhancements mitigate those credit losses through the MPF credit sharing structure at a master commitment level. The model relies on a number of assumptions, with the primary ones being the actual implied forward rate curves from active markets and a housing price index (HPI) including:

- An HPI base case scenario
- The scenario at the Core Based Statistical Area (CBSA) level
- A reasonable and supportable short-term forecast horizon of 12 months
- A transition period reverting to the long-term mean, which varies based on CBSA (and on average is approximately four years)
- Model projections of prepayment, roll rate and loss severities are calibrated based on 12-month back-testing results

The model consists of two sub-models (a transition model and a cash flow model), with Monte Carlo simulators of transitional probabilities, as well as the ability to calibrate the model to unique aspects of our portfolio. The allowance excludes accrued interest receivable since we place the loan on nonaccrual when the loan becomes impaired and reverse interest income.

In addition to evaluating our model output, management included a qualitative adjustment to reflect the additional economic uncertainty from the impact of the COVID-19 pandemic.

The COVID-19 pandemic has resulted in a weak labor market and weak overall economic conditions that have affected and are expected to continue to affect borrowers across our conventional MPF Loans, and significant judgment is required to estimate the severity and duration of the current economic downturn, as well as its potential impact on borrower defaults and loss severities. In particular, macroeconomic conditions and forecasts regarding the duration and severity of the economic downturn caused by the COVID-19 pandemic have been rapidly changing and remain highly uncertain, and it is difficult to predict exactly how borrower behavior will be impacted by these changes in economic conditions. The effectiveness of government support, consumer relief and enhanced unemployment benefits should act as mitigants to credit losses, but the extent of the mitigation impact remains uncertain. Subsequent changes to this forecast and related estimates will be reflected in the provision for credit losses in future periods.

Our estimates include forecasts of unemployment, home prices, roll rates, and severities; actual results could differ from the estimates and assumptions in our models. At this time, given the unknown duration of the pandemic and unprecedented nature of the availability of forbearances, we have determined loan payment status based on the borrower's last payment, and therefore do not assume any benefit associated with the possibility of the borrower completing the forbearance and becoming current on the loan.

MPF Risk Sharing Structure

Our allowance for credit losses considers the risk sharing structure of conventional MPF loans held in portfolio, with credit losses absorbed in the following order:

- Borrower's equity.

- Primary mortgage insurance (PMI), if any.

- The PFI. We will withhold a PFI's scheduled performance credit enhancement fee in order to reimburse ourselves for any losses allocated to the First Loss Account (FLA) in instances where performance credit enhancement fees are applicable to the MC under which the loan was sold to us. We refer to these reimbursable credit enhancement fees as Recoverable CE Fees. The FLA functions as a tracking mechanism for our first layer of loss exposure before determining the point at which a PFI's CE Amount would cover the next layer of losses. Our FLA exposure varies by MPF Loan product type - that is, MPF Original, MPF 35, MPF 100, MPF 125, and MPF Plus.

- We incur the next layer, or pro-rata with another MPF Bank in the case of a participation, up to the amount of the FLA.

- The PFI. The PFI's CE Amount, which may include proceeds from a provider of supplemental mortgage guaranty insurance (SMI).

- We will absorb any losses after the CE Amount has been exhausted, or pro-rata with another MPF Bank in the case of a participation.

The entire population of conventional MPF Loans is analyzed using the MPF Risk Sharing Structure at the Master Commitment (MC) level using roll rates and the Total Severity Rate. The credit risk analysis determines the degree to which layers of the MPF Risk Sharing Structure are available to recover losses on MPF Loans. PFIs deliver MPF Loans into pools designated by product specific MCs. The credit risk analysis is performed at an individual MC level since credit loss recovery from a PFI is MC-specific - that is, credit losses on a loan may be absorbed by the PFI only by its risk layer of the MC related to that loan.

We allocate losses on participation interests in MPF Loans amongst the participating MPF Banks pro-ratably based on their respective percentage participation interest in the related MC. The total losses resulting after factoring in the MPF Risk Sharing Structure are then calculated. The adjusted total losses are then split into credit losses and noncredit losses. A credit loss only consists of the loss resulting from the timing and amount of unpaid principal on an MPF Loan and does not include periodic expenses incurred during the time period in which an MPF Loan has become REO. Such periodic expenses are noncredit losses and they are directly expensed through the statement of income as incurred.

The following table presents the activity in our allowance for credit losses for MPF Loans for the three years ended December 31, 2020.

For the years ended December 31,	**2020**	2019	2018
Balance, beginning of period	**$ 1**	1	2
Losses charged to the allowance, net	**(4)**	—	(1)
Provision for (reversal of) credit losses	**6**	—	—
Balance, end of period	**$ 3**	$ 1	$ 1

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

The following tables summarize our conventional MPF Loans by loan performance indicators. The recorded investment at December 31, 2019 includes accrued interest receivable whereas the amortized cost at December 31, 2020 excludes accrued interest receivable. See **COVID-19 Forbearance** in **Note 7 – MPF Loans Held in Portfolio** for more information on how the forbearance impacts the accounting for the below credit quality indicators.

As of	December 31, 2020			December 31, 2019
	Conventional MPF Amortized Cost by Origination Year			Conventional MPF Recorded Investment
	2016 to 2020	Prior to 2016	Total	
Past due 30-59 days	$ 47	$ 23	$ 70	$ 82
Past due 60-89 days	17	9	26	19
Past due 90 days or more	121	38	159	28
Past due	185	70	255	129
Current	7,984	912	8,896	8,994
Total outstanding	$ 8,169	$ 982	$ 9,151	$ 9,123

As of	December 31, 2020			December 31, 2019		
	Amortized Cost			Recorded Investment		
	Conventional	Government	Total	Conventional	Government	Total
In process of foreclosure	$ 13	$ 5	$ 18	$ 10	$ 4	$ 14
Serious delinquency rate	1.78 %	4.22 %	2.00 %	0.31 %	1.67 %	0.44 %
Past due 90 days or more and still accruing interest	$ 48	$ 17	$ 65	$ 4	$ 16	$ 20
Loans on nonaccrual status	120	—	120			
Loans on nonaccrual status with no allowance for credit losses	21	—	21			
Impaired loans without an allowance for credit losses and on nonaccrual status				29	—	29
Unpaid principal balance of impaired loans without an allowance for credit losses				31	—	31

Interest Bearing Deposits, Federal Funds Sold and Term Securities Purchased Under Agreements to Resell

We face credit risk on our unsecured short-term investment portfolio. We invest in unsecured overnight interest bearing deposits and Federal Funds sold in order to ensure the availability of funds to meet members' credit and liquidity needs. If the credit markets experience significant disruptions, it may increase the likelihood that one of our counterparties could experience liquidity or financial constraints that may cause them to become insolvent or otherwise default on their obligations to us.

We did not establish an allowance for credit losses for our unsecured overnight interest bearing deposits or Federal Funds sold as of December 31, 2020 since all Federal Funds sold were repaid and all unsecured overnight interest bearing deposits were returned according to their contractual terms.

We invest in overnight securities purchased under agreements to resell in order to ensure the availability of funds to meet members' liquidity and credit needs. Securities purchased under agreements to resell are secured by marketable securities held by a third-party custodian and collateral is adjusted daily to ensure full collateral coverage. For securities purchased under an agreement to resell, we use the collateral maintenance provision practical expedient, which allows expected credit losses to be measured based on the difference between fair value of the collateral and the investment's amortized cost provided the borrower is expected to replenish the collateral in accordance with the contractual terms. If the credit markets experience disruptions and as a result, one of our counterparties becomes insolvent or otherwise defaults on their obligations to us and the collateral is insufficient to cover our exposure, we may suffer a credit loss. We did not record credit losses for our securities purchased under an agreement to resell portfolio segment since the entire portfolio was not adversely classified

and sufficient collateral existed as of December 31, 2020. We also did not establish an allowance for credit losses for overnight securities purchased under an agreement to resell as of December 31, 2020 since overnight securities purchased under agreements to resell were paid according to their contractual terms.

Community First Fund (the Fund)

We created the Fund, which is structured as an on balance sheet revolving pool of funds, with a mission to provide access to capital that supports economic development and affordable housing needs in the communities that our members serve in Illinois and Wisconsin. This is accomplished by providing long-term, unsecured loans to community development intermediary organizations (Partners). Partners to the Fund are unregulated and are often less sophisticated than our regulated members. We calculate a loss allowance based expected loss rates on representative rated securities and average tenor of the outstanding portfolio. As of December 31, 2020 we had $45 million in Fund loans outstanding, unchanged from $45 million at December 31, 2019.

Under CECL, on January 1, 2020, we recorded a $7 million allowances for credit losses on a basis of expected losses over the life of the loans, although as of that date and through December 31, 2020, all Fund loans were current and none were past due or on nonaccrual status.

The following table details our allowance for credit losses on Fund loans. As we had not incurred any credit losses under the pre-CECL accounting policy, we had no allowance through December 31, 2019. During 2020 we recorded a small provision for additional Fund credit losses but the amount was under $1 million.

For the year ended December 31,	2020
Allowance for Fund loan credit losses beginning balance	**$ —**
Adjustment for cumulative effect of accounting change	**7**
Allowance for Fund loan credit losses ending balances	**$ 7**

Municipal Securities and Standby Bond Purchase Agreements

We invest in municipal securities consisting of Housing Finance Authority (HFA) securities and off balance sheet Standby Bond Purchase Agreements (SBPAs) with these authorities. Nearly all of the securities were classified as AFS, only an immaterial amount were HTM. We review the ratings of the HFA securities and the corresponding Moody's Default Balance to determine potential credit exposure. Our municipal securities are rated above BBB, and no credit losses were expected for HFA securities and SBPAs at December 31, 2020.

PLMBS

We sold our PLMBS during October 2020, as discussed in **Note 2 – Summary of Significant Accounting Policies**. We did not record any credit losses on these PLMBS in the past three years ended December 31, 2020.

U.S. Government related assets

- Investment debt securities issued or guaranteed by the U.S. Government
- Investment debt securities issued or guaranteed by U.S. Government Sponsored Enterprises
- U.S. Government guaranteed Federal Family Education Loan Program (FFELP)
- U.S. Government guaranteed MPF Loans held in portfolio

We have not established an allowance for credit losses for U.S. Government related assets, as we do not expect any losses on the basis of: 1) an explicit U.S. Government guarantee; 2) the assumption that an implicit U.S. Government guarantee exists; 3) a demonstration of the U.S. Government's willingness to act on the implicit guarantee as evidenced by U.S. Government capitalization and support during past financial crisis events that resulted in no losses for investors in such securities; and 4) the assumption of the U.S. Government's willingness and ability to act on the explicit and implicit guarantees in the future on the basis of the importance of the Agencies in terms of promoting public policy and economic stability.

With respect to defaulted U.S. Government guaranteed MPF Loans, any losses incurred that are not recovered from the U.S. Government insurer or guarantor are absorbed by the MPF PFI servicer. Accordingly, credit losses are based on our assessment of our servicers' ability to absorb losses not covered by the applicable U.S. Government guarantee or insurance. We did not establish an allowance for credit losses on our Government Loans held in portfolio for the reporting periods presented based on our assessment that our servicers have the ability to absorb such losses. Further, no Government MPF Loans were placed on nonaccrual status or as troubled debt restructurings for the same reason.

Accrued interest receivable

As permitted under the new CECL accounting standard, we elected to present accrued interest receivable separately for loans and HTM debt securities which are carried at amortized cost. We also elected not to measure an allowance for credit losses on accrued interest receivables as we reverse accrued interest on a monthly basis in the event of an interest shortfall.

The following table summarizes our accrued interest receivable by portfolio segment.

Financial Instrument Type	December 31, 2020	December 31, 2019
MPF Loans held in portfolio	**$ 48**	$ 52
HTM securities	**5**	11
Interest bearing deposits	**—**	2
Advances	**37**	83
Other	**—**	1
Accrued interest receivable	**$ 90**	$ 149

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Note 9 – Derivatives and Hedging Activities

Refer to **Note 2 - Summary of Significant Accounting Policies** for our accounting policies for derivatives.

We transact most of our derivatives with large banks and major broker-dealers. Some of these banks and broker-dealers or their affiliates buy, sell, and distribute consolidated obligations. We are not a derivatives dealer and do not trade derivatives for speculative purposes. We enter into derivative transactions through either of the following:

- A bilateral agreement with an individual counterparty for over-the-counter derivative transactions.
- Clearinghouses classified as DCOs through FCMs, which are clearing members of the DCOs, for cleared derivative transactions.

Managing Interest Rate Risk

We use fair value hedges to manage our exposure to changes in the fair value of (1) a recognized asset or liability or (2) an unrecognized firm commitment, attributable to changes in a benchmark interest rate, such as LIBOR. Our cash flow hedge strategy is to hedge the variability in the total proceeds received from rolling forecasted zero-coupon discount note issuance, attributable to changes in the benchmark interest rate, by entering into pay-fixed interest rate swaps.

We may elect the fair value option or economic hedges for financial instruments, such as advances, MPF Loans held for sale, and consolidated obligation discount notes and bonds, in cases where hedge accounting treatment may not be achieved due to the inability to meet the hedge effectiveness testing criteria, or in certain cases where we wish to mitigate the risk associated with selecting the fair value option for other instruments.

Managing Credit Risk on Derivative Agreements

Over-the-counter (bilateral) Derivative Transactions: We are subject to credit risk due to the risk of nonperformance by counterparties to our derivative agreements. For bilateral derivative agreements, the degree of counterparty risk depends on the extent to which master netting arrangements, collateral requirements and other credit enhancements are included in such contracts to mitigate the risk. We manage counterparty credit risk through credit analysis, collateral requirements and adherence to the requirements set forth in our policies and FHFA regulations. We require collateral agreements on all over-the-counter derivatives. Additionally, collateral related to over-the-counter derivatives with member institutions includes collateral assigned to us, as evidenced by a written security agreement, and which may be held by the member institution for our benefit. See **Note 15 - Fair Value** for discussion regarding our fair value methodology for over-the-counter derivative assets and liabilities, including an evaluation of the potential for the fair value of these instruments to be affected by counterparty credit risk.

For nearly all of our bilateral derivative transactions executed prior to March 1, 2017, and for all transactions entered into after March 1, 2017, our bilateral derivative agreements are fully collateralized with a zero unsecured threshold in accordance with variation margin requirements issued by the U.S. federal bank regulatory agencies and the Commodity Futures Trading Commission (CFTC). In this regard, we pledged $669 million of investment securities that can be sold or repledged by our counterparty, as of December 31, 2020, on our bilateral derivative transactions.

For certain transactions executed prior to March 1, 2017, we may be required to post net additional collateral with our counterparties if there is deterioration in our credit rating. If our credit rating had been lowered from its current rating to the next lower rating by a major credit rating agency, such as Standard and Poor's or Moody's, the amount of collateral we would have been required to deliver would have been immaterial at December 31, 2020.

Cleared Derivative Transactions: Cleared derivative transactions are subject to variation and initial margin requirements established by the DCO and its clearing members. As a result of rule changes adopted by our DCOs, variation margin payments are characterized as settlement of a derivative's mark-to-market exposure and not as collateral against the derivative's mark-to-market exposure. See **Note 1 - Background and Basis of Presentation** and **Note 2 - Summary of Significant Accounting Policies** for further discussion. We post our initial margin collateral payments and make variation margin settlement payments through our FCMs, on behalf of the DCO, which could expose us to institutional credit risk in the event that the FCMs or the DCO fail to meet their obligations. Clearing derivatives through a DCO mitigates counterparty credit risk exposure because the DCO is substituted for individual counterparties and variation margin settlement payments are made daily through the FCMs for changes in the value of cleared derivatives. The DCO determines initial margin requirements for cleared derivatives. In this regard, we pledged $623 million of investment securities that can be sold or repledged, as part of our initial margin related to cleared derivative transactions at December 31, 2020. Additionally, an FCM may require additional initial margin to be posted based on credit considerations, including but not limited to, if our credit rating downgrades. We had no requirement to post additional initial margin by our FCMs at December 31, 2020.

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The following table presents details on the notional amounts, and cleared and bilateral derivative assets and liabilities on our statements of condition. The netting adjustment amount includes cash collateral (either received or paid by us) and related accrued interest in cases where we have a legal right, by contract (e.g., master netting agreement) or otherwise, to offset cash flow obligations between us and our counterparty into a single net payable or receivable.

	December 31, 2020			December 31, 2019		
As of	**Notional Amount**	**Derivative Assets**	**Derivative Liabilities**	Notional Amount	Derivative Assets	Derivative Liabilities
Derivatives in hedge accounting relationships-						
Interest rate contracts	**$ 39,493**	**$ 65**	**$ 729**	$ 38,509	$ 76	$ 257
Derivatives not in hedge accounting relationships-						
Interest rate contracts	**11,265**	**46**	**141**	36,404	110	89
Mortgage delivery commitments	**2,831**	**5**	**7**	935	2	1
Other	**257**	**—**	**1**	187	—	—
Derivatives not in hedge accounting relationships	**14,353**	**51**	**149**	37,526	112	90
Gross derivative amount before netting adjustments and cash collateral	**$ 53,846**	**116**	**878**	$ 76,035	188	347
Netting adjustments and cash collateral		**(111)**	**(187)**		(182)	(333)
Derivatives on statements of condition		**$ 5**	**$ 691**		$ 6	$ 14
	Cash Collateral			Cash Collateral		
Cash collateral posted and related accrued interest	**$ 84**			$ 187		
Cash collateral received and related accrued interest	**$ 8**			$ 35		

The following table presents the noninterest income - derivatives and hedging activities as presented in the statements of income. For fair value and cash flow hedging relationships, the portion of net gains (losses) representing hedge ineffectiveness are recorded in Noninterest income for 2018.

For the years ending December 31,	**2020**	2019	2018
Fair value hedges - interest rate contracts			$ (18)
Cash flow hedges - interest rate contracts			1
Economic hedges -			
Interest rate contracts	**$ (144)**	$ (25)	(5)
Other	**(9)**	3	(2)
Economic hedges	**(153)**	(22)	(7)
Variation margin on daily settled cleared derivatives	**5**	13	—
Noninterest income - Derivatives and hedging activities	**$ (148)**	$ (9)	$ (24)

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The following table presents details regarding the offsetting of our cleared and bilateral derivative assets and liabilities on our statements of condition. The netting adjustment amount includes cash collateral (either received or paid by us) and related accrued interest in cases where we have a legal right, by contract (e.g., master netting agreement) or otherwise, to offset cash flow obligations between us and our counterparty into a single net payable or receivable.

	Derivative Assets			Derivative Liabilities		
	Bilateral	Cleared	Total	Bilateral	Cleared	Total
As of December 31, 2020						
Derivatives with legal right of offset -						
Gross recognized amount	$ 60	$ 51	$ 111	$ 812	$ 59	$ 871
Netting adjustments and cash collateral	(60)	(51)	(111)	(136)	(51)	(187)
Derivatives with legal right of offset - net	—	—	—	676	8	684
Derivatives without legal right of offset	5	—	5	7	—	7
Derivatives on statements of condition	5	—	5	683	8	691
Less:						
Noncash collateral received or pledged and cannot be sold or repledged	—	—	—	668	8	676
Net amount	$ 5	$ —	$ 5	$ 15	$ —	$ 15
As of December 31, 2019						
Derivatives with legal right of offset -						
Gross recognized amount	$ 129	$ 57	$ 186	$ 281	$ 65	$ 346
Netting adjustments and cash collateral	(127)	(55)	(182)	(279)	(54)	(333)
Derivatives with legal right of offset - net	2	2	4	2	11	13
Derivatives without legal right of offset	2	—	2	1	—	1
Derivatives on statements of condition	4	2	6	3	11	14
Less:						
Noncash collateral received or pledged and cannot be sold or repledged	—	—	—	—	11	11
Net amount	$ 4	$ 2	$ 6	$ 3	$ —	$ 3

At December 31, 2020, we had $615 million of additional credit exposure on cleared derivatives due to pledging of noncash collateral to our DCOs (for initial margin), which exceeded our cleared net derivative asset position. In addition we had $1 million of additional credit exposure on bilateral derivatives, which exceeded our bilateral net derivative liability position. At December 31, 2019, we had $421 million of comparable exposure on our cleared derivatives and none on our bilateral derivatives.

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Fair Value Hedges

The following table presents our fair value hedging results by the type of hedged item. We had no hedged firm commitments that no longer qualified as a fair value hedge. Changes in fair value of the derivative and the hedged item attributable to the hedged risk for designated fair value hedges are recorded in net interest income in the same line as the earnings effect of the hedged item. Gains (losses) on derivatives include unrealized changes in fair value, as well as net interest settlements.

Prior to January 1, 2019, any hedge ineffectiveness (which represented the amount by which the change in the fair value of the derivative differed from the change in the fair value of the hedged item) was recorded in non-interest income as net gains (losses) on derivatives and hedging activities. The effect of net interest settlements attributable to open derivative hedging instruments were recorded to the interest income/expense line item of the respective hedged item type, and include the accretion (amortization) of closed fair value hedging adjustments.

For the years ending December 31,	Gain (Loss) on Derivative	Gain (Loss) on Hedged Item	Amount Recorded to Derivatives and Hedging Activities	Amount Recorded in Net Interest Income
2020				
Available-for-sale debt securities	**$ (1,046)**	**$ 864**		**$ (182)**
Advances	**(632)**	**416**		**(216)**
Consolidated obligation bonds	**271**	**(148)**		**123**
Other	**—**	**1**		**1**
Total	**$ (1,407)**	**$ 1,133**		**$ (274)**
2019				
Available-for-sale debt securities	$ (552)	$ 500		$ (52)
Advances	(275)	305		30
Consolidated obligation bonds	228	(281)		(53)
Other	—	(1)		(1)
Total	$ (599)	$ 523		$ (76)
2018				
Available-for-sale debt securities	$ (73)	$ 58	$ (15)	$ (57)
Advances	38	(39)	(1)	17
Consolidated obligation bonds	(23)	21	(2)	(55)
Other	—	—	—	(3)
Total	$ (58)	$ 40	$ (18)	$ (98)

The following table presents the cumulative basis adjustments on hedged items designated as fair value hedges and the related amortized cost basis of the hedged items. The line for MPF Loans held for portfolio relates to discontinued closed fair value hedges that are being amortized over the remaining life of the loans. As of December 31, 2020 we did not have any active fair value hedges on our MPF Loans.

As of December 31, 2020	**Amortized cost of hedged asset/ liability**	**Basis adjustments active hedges included in amortized cost**	**Basis adjustments discontinued hedges included in amortized cost**	**Total amount of fair value hedging basis adjustments**
Available-for-sale securities	**$ 13,425**	**$ 1,513**	**$ —**	**$ 1,513**
Advances	**17,164**	**756**	**3**	**759**
Consolidated obligation bonds	**10,327**	**222**	**(22)**	**200**
Other	**354**	**—**	**9**	**9**

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Cash Flow Hedges

For cash flow hedges the entire change in the fair value of the hedging instrument is recorded in AOCI and reclassified into earnings (net interest income) as the hedged item affects earnings. Hedge effectiveness testing is performed to determine whether hedge accounting is qualified.

Before January 1, 2019, hedge ineffectiveness was recognized in earnings (noninterest income) immediately while the effective portion was recognized in OCI.

We are exposed to the variability in the total net proceeds received from forecasted zero-coupon discount note issuances, which is attributable to changes in the benchmark interest rate. As a result, we enter into cash flow hedge relationships utilizing derivative agreements to hedge the total net proceeds received from our "rolling" forecasted zero-coupon discount note issuances attributable to changes in the benchmark interest rate. The maximum length of time over which we are hedging this exposure is 9 years. We reclassify amounts in AOCI into our statements of income in the same periods during which the hedged forecasted transaction affects our earnings. We had no discontinued cash flow hedges for the periods presented. The deferred net gains (losses) on derivative instruments in AOCI that are expected to be reclassified to earnings during the next twelve months were not material as of December 31, 2020.

The following table presents our cash flow hedging results by type of hedged item. Additionally, the table indicates where cash flow hedging results are classified in our statements of income. In this regard, the **Amount Reclassified from AOCI into Net Interest Income** column includes the following:

- The amortization of closed cash flow hedging adjustments, which are reclassified from AOCI into the interest income/ expense line item of the respective hedged item type.
- The effect of net interest settlements attributable to open derivative hedging instruments, which are initially recorded in AOCI and are reclassified to the interest income/expense line item of the respective hedged item type.

For the years ending December 31,	Gross Amount Initially Recognized in AOCI	Amount Reclassified from AOCI into Net Interest Income
2020		
Discount notes	**$ (48)**	**$ (20)**
Bonds	**—**	**(1)**
Total	**$ (48)**	**$ (21)**
2019		
Discount notes	$ (33)	$ (25)
Bonds	—	(1)
Total	$ (33)	$ (26)

	Ineffectiveness Recorded in Derivatives and Hedging Activities	Effective Portion Recorded in AOCI	Amount Recorded in Net Interest Income
2018			
Discount notes	$ 1	$ 101	$ (97)
Bonds	—	—	(1)
Total	$ 1	$ 101	$ (98)

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 10 – Consolidated Obligations

The FHLBs issue consolidated obligations through the Office of Finance as their agent. Consolidated obligations consist of discount notes and consolidated obligation bonds. Consolidated discount notes are issued to raise short-term funds, are issued at less than their face amount and redeemed at par value when they mature. The maturity of consolidated obligation bonds may range from less than one year to over 20 years, but they are not subject to any statutory or regulatory limits on maturity.

The following table presents our consolidated obligation discount notes for which we are the primary obligor. All are due in one year or less.

As of	**December 31, 2020**	December 31, 2019
Consolidated obligation discount notes - carrying amount	**$ 48,643**	$ 41,675
Consolidated obligation discount notes - par amount	**48,654**	41,770
Weighted Average Interest Rate	**0.10 %**	1.61 %

The following table presents maturities and weighted average interest rates on our consolidated obligation bonds, for which we are the primary obligor, including callable bonds that are redeemable in whole, or in part, at our discretion on predetermined call dates.

As of December 31, 2020	**Contractual Maturity**	**Weighted Average Interest Rate**	**By Maturity or Next Call Date**
Due in one year or less	**$ 21,266**	**0.49 %**	**$ 27,539**
One to two years	**10,430**	**1.07 %**	**9,990**
Two to three years	**2,858**	**1.95 %** [a]	**2,917**
Three to four years	**1,355**	**1.53 %**	**768**
Four to five years	**2,153**	**1.04 %** [a]	**933**
Thereafter	**4,410**	**2.45 %**	**325**
Total par value	**$ 42,472**	**1.00 %**	**$ 42,472**

[a] The 'Two to three years' category includes bonds issued in the years 2008 through 2015, when interest rates were higher. The bonds in the 'Four to Five years' categories where all issued between 2018 through 2020 when interest rates were lower.

The following table presents consolidated obligation bonds outstanding by call feature:

As of	**December 31, 2020**	December 31, 2019
Noncallable	**$ 35,075**	$ 35,556
Callable	**7,397**	14,842
Par value	**42,472**	50,398
Fair value hedging adjustments	**200**	53
Other adjustments	**(2)**	23
Consolidated obligation bonds	**$ 42,670**	$ 50,474

Consolidated obligations are issued with either fixed or floating rate payment terms that may use a variety of indices for interest rate resets including LIBOR and SOFR. Additionally, both fixed-rate bonds and floating-rate bonds may contain an embedded derivative, such as a call feature or complex coupon payment terms, if requested by investors. When such consolidated obligations are issued, we may concurrently enter into an interest rate swap containing offsetting features that effectively convert the terms of the bond to a variable-rate bond tied to an index or a fixed-rate bond.

Consolidated obligation bonds, beyond having fixed-rate or floating-rate payment terms, may also have the following broad terms regarding either principal repayment or coupon payment terms:

Step-Up Bonds and Step-Down Bonds - Bonds that pay interest at increasing or decreasing fixed rates for specified intervals over their life. These bonds are callable at our option on the step-up or step-down dates.

The following table presents interest rate payment terms for consolidated obligation bonds for which we are primary obligor at the dates indicated:

As of	**December 31, 2020**	December 31, 2019
Fixed-rate	**$ 17,377**	$ 28,470
Variable-rate	**24,592**	20,520
Step-up	**503**	1,358
Step-down	**—**	50
Par value	**$ 42,472**	$ 50,398

The following table summarizes the consolidated obligations of the FHLBs and those for which we are the primary obligor. We did not accrue a liability for our joint and several liability related to the other FHLBs' share of the consolidated obligations as of December 31, 2020 and December 31, 2019. Refer to **Note 16 - Commitments and Contingencies** for further details.

	December 31, 2020			December 31, 2019		
Par values as of	**Bonds**	**Discount Notes**	**Total**	Bonds	Discount Notes	Total
FHLB System total consolidated obligations	**$ 471,919**	**$ 274,853**	**$ 746,772**	$ 620,942	$ 404,953	$1,025,895
FHLB Chicago as primary obligor	**42,472**	**48,654**	**91,126**	50,398	41,770	92,168
As a percent of the FHLB System	**9 %**	**18 %**	**12 %**	8 %	10 %	9 %

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 11 - Affordable Housing Program

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA) contains provisions for the establishment of an Affordable Housing Program (AHP) by each FHLB. We provide subsidies in the form of direct grants for members that use the funds for qualifying affordable housing projects. Annually, the FHLB System must set aside for their AHPs, in the aggregate, the greater of $100 million or 10% of the current year's income subject to assessments (e.g., excluding any interest expense related to MRCS). The exclusion of interest expense related to MRCS is a regulatory calculation that was established by the FHFA. Interest expense related to MRCS for 2020, 2019, and 2018, was $15 million, $16 million, and $13 million. We accrue AHP expense monthly based on our regulatory income subject to assessments and recognize an AHP liability. As subsidies are provided, the AHP liability is reduced.

The following table summarizes the changes in the AHP payable for the periods indicated:

For the years ended December 31,	**2020**	2019	2018
AHP balance at beginning of year	**$ 84**	$ 84	$ 88
AHP expense accrual	**43**	35	35
Cash disbursements for AHP	**(38)**	(35)	(39)
AHP balance at end of year	**$ 89**	$ 84	$ 84

Notes to Financial Statements
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Note 12 – Capital and Mandatorily Redeemable Capital Stock (MRCS)

Under our Capital Plan our stock consists of two sub-classes of stock, Class B1 activity stock and Class B2 membership stock (together, Class B stock), both with a par value of $100 and redeemable on five years' written notice, subject to certain conditions. Under the Capital Plan, each member is required to own capital stock in an amount equal to the greater of a membership stock requirement or an activity stock requirement. All stock that supports a member's activity stock requirement with the Bank is classified as Class B1 activity stock. Any additional amount of stock necessary for the total amount of Class B stock held to equal a member's minimum investment amount will be classified as Class B2 membership stock. Members purchase Class B2 membership stock to satisfy their membership stock requirement with the Bank.

Members that withdraw from membership must wait at least five years after their membership was terminated and all of their capital stock was redeemed or repurchased before being readmitted to membership in any FHLB.

Under our Capital Plan, any dividend declared on Class B1 shares must be greater than or equal to the dividend declared on Class B2 shares for the same period. We have paid an enhanced dividend on Class B1 activity stock since the fourth quarter of 2013. Future dividend payments remain subject to declaration by our Board and will depend on future operating results, our Retained Earnings and Dividend Policy and any other factors the Board determines to be relevant.

Minimum Capital Requirements

We are subject by FHFA regulation to the following three capital requirements:

- Total regulatory capital ratio;
- Leverage capital ratio; and
- Risk-based capital.

For purposes of calculating our compliance with these minimum capital requirements in effect in 2020:

- "Permanent capital" includes our retained earnings plus the amount paid in for our Class B stock, including Class B stock classified as mandatorily redeemable.
- "Total capital" means the sum of (1) our permanent capital plus (2) any general allowance for losses.
- "Total assets" are the total assets determined in accordance with GAAP.

Permanent capital and total capital do not include accumulated other comprehensive income (loss).

Total Regulatory Capital Ratio. We must maintain a minimum ratio of total capital to total assets of at least 4.00%. For safety and soundness reasons, this ratio may be increased by the FHFA with respect to an individual FHLB.

Leverage Capital Ratio. We must also maintain a leverage ratio of total capital to total assets of at least 5.00%. For purposes of determining this leverage ratio, total capital is computed by multiplying our permanent capital by 1.5 and adding to this product all other components of total capital. This ratio also may be increased by the FHFA with respect to an individual FHLB.

Risk-Based Capital. Under the risk-based capital requirement, we must maintain permanent capital in an amount at least equal to the sum of our: (i) credit risk capital requirement, (ii) market risk capital requirement, and (iii) operational risk capital requirement; all of which are calculated in accordance with the rules and regulations of the FHFA.

The FHFA published a final rule making certain revisions to the risk-based capital requirements, effective January 1, 2020. Among the changes, the final rule amended the credit risk component of the requirements by making certain revisions to the capital charges assigned to advances, non-mortgage assets, off-balance sheet assets and derivatives.

	December 31, 2020		December 31, 2019	
As of	**Requirement**	**Actual**	Requirement	Actual
Total regulatory capital	**$ 4,014**	**$ 6,361**	$ 3,993	$ 5,807
Total regulatory capital ratio	**4.00 %**	**6.34 %**	4.00 %	5.82 %
Leverage capital	**$ 5,018**	**$ 9,541**	$ 4,991	$ 8,710
Leverage capital ratio	**5.00 %**	**9.51 %**	5.00 %	8.73 %
Risk-based capital	**$ 1,587**	**$ 6,361**	$ 1,141	$ 5,807

Total regulatory capital and leverage capital includes mandatorily redeemable capital stock (MRCS) but does not include AOCI. Under the FHFA regulation on capital classifications and critical capital levels for the FHLBs, we are adequately capitalized. Additionally, an FHFA Advisory Bulletin sets forth guidance for each FHLB to maintain a ratio of at least two percent of capital stock to total assets. In accordance with this guidance, the FHFA considers the proportion of capital stock to assets, measured on a daily average basis at month end, when assessing each FHLB's capital management practices.

Capital Concentration

The following members had regulatory capital stock exceeding 10% of our total regulatory capital stock outstanding (which includes MRCS).

As of December 31, 2020	Regulatory Capital Stock Outstanding	% of Total Outstanding	Amount of Which is Classified as a Liability (MRCS)
One Mortgage Partners Corp. [a]	$ 245	10.7 %	$ 245

[a] One Mortgage Partners Corp. ("OMP") is a subsidiary of JPMorgan Chase Bank NA. Effective February 19, 2021, we terminated OMP's membership in connection with the FHFA rule making captive insurance companies ineligible for FHLB membership.

Mandatorily Redeemable Capital Stock (MRCS)

The following table shows our MRCS redemption terms by year payable.

As of December 31, 2020	Amount
One to two years	3
Two to three years	1
Three to four years	4
Four to five years	1
After five years	270 [a]
Mandatorily Redeemable Capital Stock	$ 279

[a] Represents the five-year redemption period of Class B stock held by former captive insurance company members which began immediately upon their terminations of membership on February 19, 2021, in accordance with the FHFA Rule on FHLB membership. However, we have the discretion to repurchase their excess stock (if any) in accordance with our capital plan at any time.

Repurchase of Excess Capital Stock

Members may request repurchase of excess stock on any business day. Additionally, starting on March 15, 2021, and continuing on a monthly basis, the Bank will repurchase excess stock held by each member or former member that exceeds certain limits set by the Bank. All repurchases of excess stock, including any future monthly repurchase, will continue until otherwise announced, but remain subject to our regulatory requirements, certain financial and capital thresholds, and prudent business practices.

Dividends

Our ability to pay dividends is subject to the FHLB Act and FHFA regulations. On January 29, 2021 our Board of Directors declared a 5.00% dividend (annualized) for Class B1 activity stock and a 2.00% dividend (annualized) for Class B2 membership stock based on our preliminary financial results for the fourth quarter of 2020. This dividend totaled $25 million (recorded as $22 million dividends on capital stock and $3 million interest expense on mandatorily redeemable capital stock) and was paid on February 11, 2021. Any future dividend payment remains subject to declaration by the Board and will depend on future operating results, our Retained Earnings and Dividend Policy and any other factors the Board determines to be relevant.

Joint Capital Enhancement Agreement

All of the FHLBs, including us, entered into a Joint Capital Enhancement Agreement (as later amended, the JCE Agreement) and implemented it in our respective capital plans. The intent of the JCE Agreement is to enhance the capital position of each FHLB by allocating that portion of each FHLB's earnings to a separate restricted retained earnings account at that FHLB.

The JCE Agreement provides that each FHLB is required to contribute 20% of its net income each quarter to a restricted retained earnings account until the balance of that account equals at least 1% of that FHLB's average balance of outstanding consolidated obligations for the previous quarter.

Although restricted retained earnings under the JCE Agreement are included in determining whether we have attained the retained earnings target under the Bank's Retained Earnings and Dividend Policy, these restricted retained earnings will not be available to pay dividends. We do not believe that the requirement to contribute 20% of our future net income to a restricted retained earnings account under the JCE Agreement will have an impact on our ability to pay dividends except in the most extreme circumstances. There is a provision in the JCE Agreement that if, at any time, our restricted retained earnings were to fall below the required level, we would only be permitted to pay dividends out of (1) current net income not required to be added to our restricted retained earnings and (2) retained earnings that are not restricted.

FICO Dissolution

The Competitive Equality Banking Act of 1987 was enacted in August 1987, which, among other things, provided for the recapitalization of the Federal Savings and Loan Insurance Corporation through a newly-chartered entity, the Financing Corporation (FICO). The capitalization of FICO was provided by capital distributions from the FHLBs to FICO in exchange for FICO nonvoting capital stock. Capital distributions were made by the FHLBs in 1987, 1988 and 1989 that aggregated to $680 million. Upon passage of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the FHLBs' previous investment in capital stock of FICO was determined to be non-redeemable and the FHLBs charged-off their prior capital distributions to FICO directly against retained earnings.

In connection with the dissolution of FICO in July 2020, FICO determined that excess funds aggregating to $200 million were available for distribution to its stockholders, the FHLBs, and FICO distributed these funds to the FHLBs in June 2020. Specifically, our partial recovery of prior capital distribution was $19 million, which was determined based on our share of the $680 million originally contributed to FICO. We treated the receipt of these funds as a return of our investment in FICO capital stock, and therefore as a partial recovery of the prior capital distributions we made to FICO in 1987, 1988, and 1989. These funds have been credited to unrestricted retained earnings in our **Statements of Capital** on page F-7 and in Other Financing Activities in our **Statements of Cash Flows** on page F-9.

FHLB Chicago | Federal Home Loan Bank of Chicago

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Note 13 - Accumulated Other Comprehensive Income (Loss)

The following table summarizes the gains (losses) in AOCI for the reporting periods indicated.

For the years ended December 31,	Net Unrealized - Available-for-sale Debt Securities	Noncredit OTTI - Held-to-maturity Debt Securities	Net Unrealized - Cash Flow Hedges	Post-retirement Plans	AOCI
2020					
Beginning balance	**$ 104**	**$ (85)**	**$ (38)**	**$ (10)**	**$ (29)**
Change in the period recorded to the statements of condition	**194**	**85**	**(48)**	**(19)**	**212**
Amounts reclassified in period to statements of income:					
Net interest income			**21**		**21**
Noninterest income	**(6)**	**—**			**(6)**
Noninterest expense				**9**	**9**
Ending balance	**$ 292**	**$ —**	**$ (65)**	**$ (20)**	**$ 207**
2019					
Beginning balance	$ 211	$ (114)	$ (31)	$ (11)	$ 55
Change in the period recorded to the statements of condition	(107)	29	(33)	(2)	(113)
Amounts reclassified in period to statements of income:					
Net interest income	—	—	26		26
Noninterest expense				3	3
Ending balance	$ 104	$ (85)	$ (38)	$ (10)	$ (29)
2018					
Beginning balance	$ 407	$ (143)	$ (147)	$ (5)	$ 112
Change in the period recorded to the statements of condition	(196)	29	101	(8)	(74)
Amounts reclassified in period to statements of income:					
Net interest income	—	—	16		16
Noninterest income	—	—	(1)		(1)
Noninterest expense				2	2
Ending balance	$ 211	$ (114)	$ (31)	$ (11)	$ 55

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Note 14 - Employee Retirement Plans

We participate in the Pentegra Defined Benefit (DB) Plan for Financial Institutions (the Pension Plan), a tax-qualified defined-benefit pension plan. The Pension Plan year runs from July 1 to June 30. Substantially all of our officers and employees participate in the Pension Plan. Our risks in participating in the Pension Plan are as follows:

- The Pension Plan is a single plan under Internal Revenue Code Section 413(c) and, as a result, all of the assets stand behind all of the liabilities. Accordingly, contributions made by us may be used to provide benefits to participants of other participating employers.

- If a participating employer withdraws from the Pension Plan, the unfunded obligations of the Pension Plan may be borne by the remaining participating employers, which would include us.

- If we choose to withdraw from the Pension Plan, we may be required to pay the Pension Plan an amount based on the underfunded status of the Pension Plan, referred to as a withdrawal liability.

Relevant information concerning the Pension Plan is outlined below:

- The Pension Plan's Employer Identification Number is 13-5645888 and the Plan Number is 333.
- A single Form 5500 is filed on behalf of all employers who participate in the Pension Plan. A Form 5500 was not available for the Pension Plan year ended June 30, 2020, as of the date of this Form 10-K filing.
- Our contributions for the years presented were not more than 5% of the total contributions to the Pension Plan.
- The Pension Plan is not a collective bargaining agreement.
- We did not pay any surcharges to the Pension Plan.
- There was no funding improvement plan or rehabilitation plan implemented, nor is any such plan pending.

Contributions to the Pension Plan include both mandatory amounts required under federal law and discretionary contributions to improve the Plan's funded status. The Moving Ahead for Progress in the 21st Century Act ("MAP-21"), enacted in 2012, provided temporary relief for employers like the Bank who participate in plans for which funding contributions are determined under the Employee Retirement Income Security Act of 1974. Specifically, MAP-21 allows the Bank to use a 25-year average discount rate within an upper and lower range rather than the current discount rate when determining its minimum funding obligation. In effect, the discount rate under MAP-21 is higher than the current discount rate, which reduces the Bank's minimum funding obligation and expense recognized into earnings. This is due to the inverse relationship between the discount rate and the pension liability and expense - that is, the higher the discount rate, the lower the liability and expense amount. This discount rate relief was extended in 2014 when the Highway and Transportation Funding Act ("HATFA") was signed into law. The discount rate relief was extended again through the year 2020 (with graduated increases each year thereafter until expiring in 2023) when the Bipartisan Budget Act of 2015 ("BBA 2015") was enacted in 2015.

The following table provides details on our multiemployer Pension Plan. The funded status is calculated as the market value of plan assets divided by the funding target and reflects contributions received through the plan year ended June 30.

Pension Plan	**2020**	2019	2018
Net pension cost (minimum required contribution) including administrative fees, charged to compensation and benefits expense for the years ended December 31,	**$ 18**	$ 9	$ 12
Prepaid pension contributions, in other assets, as of December 31,	**67**	22	16
Plan funded status as of the plan years ended June 30,	**108 %**	109 %	110 %
Our portion of plan funded status as of the plan years ended June 30,	**145 %**	110 %	121 %

In addition to the above multiemployer Pension Plan we have a tax-qualified defined contribution 401(k) plan, an unfunded non-qualified deferred compensation plan, and a postretirement health and life insurance benefit plan. The financial amounts related to these plans were not material.

Note 15 - Fair Value

Fair value represents the exit price that we would receive to sell an asset or pay to transfer a liability in an orderly transaction with a market participant at the measurement date. Refer to **Note 2 - Summary of Significant Accounting Policies** for our fair value measurement policies.

Valuation Techniques and Significant Inputs

Outlined below is a description of our valuation techniques and significant assumptions.

Assets for which fair value approximates carrying amount. Due to the short-term nature and negligible credit risk, we use the carrying amount to estimate fair value of cash and due from banks, interest bearing deposits, Federal Funds sold, securities purchased under agreements to resell, and accrued interest receivable.

Investment debt securities—non-MBS and MBS. We use one of the valuation approaches outlined below to determine fair value.

- Prices received from third party pricing vendors provided we believe their pricing models are consistent with what other market participants would use; or
- An income approach based on a market-observable interest rate curve adjusted for a spread.

The significant inputs and assumptions utilized by third party pricing vendors in their proprietary pricing models are derived as outlined below for these securities.

- Market observable sources (Level 1), which include, but are not limited to, benchmark yields, reported trades, broker/dealer quotes, issuer spreads, benchmark securities, bids, offers, and other market related data, for securities that are actively traded.
- Available market observable inputs (Level 2) rather than quoted market prices when valuing securities primarily comprised of our portfolio of government, mortgage and asset-backed securities.
- Available market information (Level 2), such as benchmark curves, benchmarking of like securities, sector groupings, and matrix pricing, for fixed income securities that do not trade on a daily basis.
- Significant unobservable inputs (Level 3) for securities.

We annually review the multiple third party pricing vendors we utilize to measure the fair value of our agency MBS. Our annual review includes, but is not limited to, the following:

- Confirming and further augmenting our understanding of the vendors' pricing processes, methodologies and control procedures.
- Reviewing, if available, the vendors' independent auditors' reports to assess the vendors' internal controls over their valuation processes.
- Assessing our third party vendors' proprietary pricing models for reasonableness, including the underlying inputs and assumptions utilized. This is achieved by sampling securities across different asset classes and utilizing deep dive analyses since we do not have direct access to their propriety pricing models.
- Using our third party vendor's pricing challenge process, which is in place for all security valuations. The pricing challenge process facilitates identification and resolution of potentially erroneous prices.

Non-MBS securities - SBA, agency bonds and housing development bonds. We use one third party pricing vendor to measure the fair value of these securities. If available, we compare the prices received from that service to two other third party pricing vendors to determine if the price is reasonable. If no other third party prices are available we validate against internal models.

FFELP ABS. We use the fair values provided by third party pricing vendors to calculate an average price, or our internal model price in cases where a fair value is not provided by any third party pricing vendor, to measure the fair value of our FFELP ABS.

We compare prices for comparable FFELP securities provided by third party pricing vendors to our internal pricing model to test for reasonableness. If only one pricing vendor is providing prices, our internal pricing model will be averaged with the vendor price.

Advances. We determine the fair value of an advance by calculating the present value of its expected future cash flows. Accrued interest receivable is included in the expected future cash flows for an advance carried at fair value under the fair value option, and accordingly, accrued interest receivable on such an advance is classified in Advances in our statements of condition. Accrued interest receivable is not included in the expected future cash flows on an advance carried on an amortized cost basis, and accordingly, accrued interest receivable on such an advance is classified in Other Assets in our statements of condition. In determining fair value we do not factor in prepayment risk in cases where an advance carries a prepayment fee since we are financially indifferent whether or not the borrower prepays.

The significant inputs used to determine fair value for advances carried under the fair value option in our statements of condition are shown below.

- Consolidated Obligation Curve (CO Curve). The Office of Finance constructs this market-observable curve using the U.S. Treasury Curve as a base which is then adjusted by adding indicative spreads obtained largely from market observable sources, which includes the benchmark component interest rate. These market indications are derived from pricing indications from dealers, historical pricing relationships, market activity such as recent GSE trades, and other secondary market activity. The CO Curve best represents our cost of funds and is an integral factor with respect to pricing our advance products, and accordingly, we utilize it to measure an advance's fair value.

- Volatility assumption. Market-based expectations of future interest rate volatility implied from current market prices for similar options.

- Target spread assumption. The target spread relative to our cost of funds that we expect to earn for a given advance.

MPF Loans held in portfolio. We measure the fair value of our entire mortgage loan portfolio based on to-be-announced (TBA) securities, which represent quoted market prices for new mortgage-backed securities issued by U.S. government-sponsored enterprises, and adjust that fair value amount for impaired MPF Loans held in portfolio. The prices of the referenced mortgage-backed securities and the MPF Loans are highly dependent upon the underlying prepayment assumptions priced in the secondary market. Prices are then adjusted for differences in coupon, average loan rate, seasoning, settlements, purchase market spread, loan balance, and cash flow remittance between our MPF Loans and the referenced mortgage-backed securities.

MPF Loans held for sale (included in Other Assets). We measure the fair value of our MPF Loans HFS portfolio based on TBA securities, which represent quoted market prices for new mortgage-backed securities issued by U.S. government-sponsored enterprises.

Derivative assets/liabilities. Derivative instruments are primarily transacted in the institutional dealer market and priced with observable market assumptions at a mid-market valuation point. We estimate the fair value of a derivative that is not transacted in such an active market using standard valuation techniques, such as discounted cash-flow analysis and comparisons to similar instruments. We are subject to nonperformance risk in derivative transactions due to the potential default by our derivative counterparties or a DCO. To mitigate this risk, we have entered into master netting agreements and credit support agreements with our derivative counterparties for our bilaterally executed derivative contracts that provide for the daily delivery of collateral. We apply the “portfolio exception” for purposes of determining the nonperformance risk adjustment, if any, to the fair value of our derivative instruments. As a result, we measure the nonperformance risk adjustment on our derivative instruments by taking into consideration the effects of legally enforceable master netting agreements that allow us to settle positive and negative positions and offset collateral with the same counterparty on a net basis.

For transactions executed as a cleared derivative, we settle our variation margin exposure daily in cash and pledge securities collateral for initial margin exposure. We also have established the enforceability of offsetting rights incorporated in the agreements for the cleared derivative transactions. Our net counterparty position equals the amount attributable to a particular credit exposure that we would receive to sell a net long position or that we would pay to transfer a net short position. Based on our risk management practices described above and our assessment of any change in our own credit spread, we concluded that the effect of the credit differential between us and our derivative counterparties and DCO was sufficiently mitigated to an immaterial level that no nonperformance risk adjustments were deemed necessary to the recorded fair value of our derivative assets/liabilities in our statements of condition. See **Note 9 - Derivatives and Hedging Activities** for further discussion of our credit risk management practices.

In estimating a derivative's fair value, we use a discounted cash flow analysis utilizing market-observable inputs (inputs that are actively quoted and can be validated to external sources). Inputs by class of derivative are shown below.

Interest-rate related:

- We use the SOFR curve to determine the fair value of our cleared derivative contracts and use OIS curve to determine the fair value of our bilateral derivative contracts.
- Volatility assumption market-based expectations of future interest rate volatility implied from current market prices for similar options.
- Prepayment assumption, if applicable.

Mortgage delivery commitments and TBA mortgage-backed securities:

- TBA price. Market-based prices of TBAs are determined by coupon class and expected term until settlement.

Deposits. We determine the fair values of deposits by their book values.

Community First Fund. We determine the fair values of community first fund by their book values.

Consolidated obligations. We estimate fair values based on the cost of raising comparable term debt using internal valuation models. Our internal valuation models use standard valuation techniques and estimate fair values based on the following significant inputs for those consolidated obligations carried at fair value:

- CO Curve for fixed-rate, noncallable (bullet) consolidated obligations and a spread to the benchmark swap curve (e.g., LIBOR) for callable consolidated obligations based on price indications for callable consolidated obligations from the Office of Finance.
- Volatility assumption. Market-based expectations of future interest rate volatility implied from current market prices for similar options.
- Spread assumption. A spread adjustment to the benchmark swap curve (e.g., LIBOR) used to value callable consolidated obligations carried at fair value.

Controls over Internal Valuation Methodologies and Third Party Pricing Vendors

Segregation of duties is a key control over our internal valuation methodologies and third party pricing vendors. In this regard, our segregation of duties are outlined below.

- Senior management is responsible for our valuation policies. Senior management's responsibility is independent of our investing and treasury functions.
- The Asset/Liability Management Committee approves fair value policies and reviews the appropriateness of current valuation methodologies and policies. Model validation is overseen by the Risk Management Committee of the Board of Directors.
- The Audit Committee of the Board of Directors oversees the controls utilized by the Asset/Liability Management Committee over their processes. This includes the results of independent model validations where appropriate.
- The Risk Management Group prepares the fair value measurements of our financial instruments, evaluates the appropriateness of the fair values generated by pricing models, and assures the reasonableness and consistent application of valuation approaches and assumptions utilized in cases where unobservable inputs are utilized. In addition, the group performs control processes to ensure the fair values received from third party pricing services are consistent with GAAP fair value measurement guidance.
- The Risk Management Group's responsibility is independent of our investing and treasury management functions.

Other control processes over our internal valuation methodologies include, but are not limited to, the following:

- Reviewing the pricing model's theoretical soundness and appropriateness by personnel with relevant expertise who are independent from the fair value measurement function.
- Back testing models to subsequent transactions (e.g. termination of a derivative), analysis of actual cash flows to projected cash flows, comparisons with similar observable positions, and comparisons with information received from pricing services for financial instruments where prices or valuations require unobservable inputs.

Other control processes over third party pricing vendors, include, but are not limited to, the following:

- Understanding and evaluating the fair value measurements received on each major investment security type to ensure that the amounts reported in our financial statements as well as our fair value disclosures comply with GAAP.
- Utilizing all fair value inputs received from multiple third party pricing vendors to determine the fair value of an individual security unless we determine that exclusion of a fair value input is appropriate based on our control processes.
- Discussions with our third party pricing vendors to ensure that they are in compliance with fair value measurement guidance under GAAP. Such discussions focus on the following:
    - Understanding their pricing models to the extent possible, as some pricing models are proprietary in nature.
    - Understanding the principal or most advantageous market selected and our ability to access that market.
    - Assumptions and significant inputs used in determining the fair value measurement.
    - The appropriateness of the fair value hierarchy level as of the reporting date.
    - Whether the market was active or illiquid as of the reporting date.
    - Whether transactions were between willing buyers and sellers or distressed in nature as of the reporting date.
    - Whether the fair value measurements as of the reporting date is based on current or stale assumptions and inputs.
- Obtaining the third party pricing vendor methodologies and control reports.
- Challenging fair value measurements received that represent outliers to the fair value measurements received on the same financial instrument from a different third party pricing service. We document these challenges on a monthly basis.
- Examining the underlying inputs and assumptions for a sample of individual securities across asset classes and average life.
- Identifying stale prices, prices changed significantly from prior valuations, and other anomalies that may indicate that a price may not be accurate.
- Performing implied yield analysis to identify anomalies.

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Fair Value Estimates

The following table is a summary of the fair value estimates and related levels in the hierarchy. The carrying amounts are per the statements of condition. Fair value estimates represent the exit prices that we would receive to sell assets or pay to transfer liabilities in an orderly transaction with market participants at the measurement date. They do not represent an estimate of our overall market value as a going concern, as they do not take into account future business opportunities or profitability of assets and liabilities. We measure instrument-specific credit risk attributable to our consolidated obligations based on our nonperformance risk, which includes the credit risk associated with the joint and several liability of other FHLBs, see **Note 16 – Commitments and Contingencies**. As a result, we did not recognize any instrument-specific credit risk attributable to our consolidated obligations that are carried at fair value. See **Note 2 - Summary of Significant Accounting Policies** for our fair value policies and **Note 9 - Derivatives and Hedging Activities** for more information on the Netting and Cash Collateral amounts.

	Carrying Amount	Fair Value	Level 1	Level 2	Level 3	Netting & Cash Collateral
As of December 31, 2020						
Carried at amortized cost						
Cash and due from banks and interest bearing deposits	$ 4,396	$ 4,396	$ 4,396	$ —	$ —	
Federal Funds sold and securities purchased under agreements to resell	14,245	14,245	—	14,245	—	
Held-to-maturity debt securities	1,491	1,549	—	1,534	15	
Advances	45,380	45,696	—	45,696	—	
MPF Loans held in portfolio	10,020	10,332	—	10,327	5	
Other assets	90	90	—	90	—	
Carried at fair value on a recurring basis						
Trading debt securities	4,621	4,621	—	4,621	—	
Available-for-sale debt securities	18,437	18,437	—	18,437	—	
Advances	1,315	1,315	—	1,315	—	
Derivative assets	5	5	—	116	—	$ (111)
Other assets - held for sale at fair value	105	105	—	105	—	
Carried at fair value on a nonrecurring basis						
MPF Loans held in portfolio	18	18	—	—	18	
Financial assets	100,123	$ 100,809	$ 4,396	$ 96,486	$ 38	$ (111)
Other non financial assets	233					
Assets	$ 100,356					
Carried at amortized cost						
Deposits	(1,284)	(1,284)	—	(1,284)	—	
Consolidated obligation discount notes	(46,643)	(46,644)	—	(46,644)	—	
Consolidated obligation bonds	(40,826)	(41,183)	—	(41,183)	—	
Mandatorily redeemable capital stock	(279)	(279)	(279)	—	—	
Other liabilities	(89)	(89)	—	(89)	—	
Carried at fair value on a recurring basis						
Consolidated obligation discount notes	(2,000)	(2,000)	—	(2,000)	—	
Consolidated obligation bonds	(1,844)	(1,844)	—	(1,844)	—	
Derivative liabilities	(691)	(691)	—	(878)	—	187
Financial liabilities	(93,656)	$ (94,014)	$ (279)	$ (93,922)	$ —	$ 187
Other non financial liabilities	(411)					
Liabilities	$ (94,067)					

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(Dollars in tables in millions except per share amounts unless otherwise indicated)

As of December 31, 2019	Carrying Amount	Fair Value	Level 1	Level 2	Level 3	Netting & Cash Collateral
Carried at amortized cost						
Cash and due from banks and interest bearing deposits	$ 1,709	$ 1,709	$ 1,709	$ —	$ —	
Federal Funds sold and securities purchased under agreements to resell	14,106	14,106	—	14,106	—	
Held-to-maturity debt securities	2,381	2,615	—	2,138	477	
Advances	47,700	47,780	—	47,780	—	
MPF Loans held in portfolio	9,995	10,189	—	10,183	6	
Other assets	149	149	—	149	—	
Carried at fair value on a recurring basis						
Trading debt securities	4,648	4,648	—	4,648	—	
Government related non-MBS, ABS, and MBS	16,032	16,032	—	16,032	—	
Private label residential MBS	35	35	—	—	35	
Available-for-sale debt securities	16,067	16,067	—	16,032	35	
Advances	2,808	2,808	—	2,808	—	
Derivative assets	6	6	2	186	—	$ (182)
Other assets	83	83	—	83	—	
Carried at fair value on a nonrecurring basis						
MPF Loans held in portfolio	5	5	—	—	5	
Other assets	1	1	—	—	1	
Financial assets	99,658	$ 100,166	$ 1,711	$ 98,113	$ 524	$ (182)
Other non financial assets	169					
Assets	$ 99,827					
Carried at amortized cost						
Deposits	(847)	(847)	—	(847)	—	
Consolidated obligation discount notes	(23,709)	(23,709)	—	(23,709)	—	
Consolidated obligation bonds	(42,490)	(42,728)	—	(42,728)	—	
Mandatorily redeemable capital stock	(324)	(324)	(324)	—	—	
Other liabilities	(158)	(158)	—	(158)	—	
Carried at fair value on a recurring basis						
Consolidated obligation discount notes	(17,966)	(17,966)	—	(17,966)	—	
Consolidated obligation bonds	(7,984)	(7,984)	—	(7,984)	—	
Derivative liabilities	(14)	(14)	—	(347)	—	333
Financial liabilities	(93,492)	$ (93,730)	$ (324)	$ (93,739)	$ —	$ 333
Other non financial liabilities	(881)					
Liabilities	$ (94,373)					

We had no transfers between levels for the periods shown.

Level 3 Rollforward

The following table presents a rollforward of assets and liabilities that are measured at fair value on a recurring basis on the statements of condition using significant unobservable inputs (Level 3).

	Available-For-Sale Private Label MBS		
For the years ended December 31,	**2020**	2019	2018
Balance at beginning of period	**$ 35**	$ 41	$ 50
Gain (loss) included in earnings -			
Gain (loss) on sale	**6**	—	—
Interest income	**2**	2	1
Gain (loss) included in OCI -			
Net unrealized on AFS securities	**(6)**	(1)	(2)
Sales	**(32)**	—	—
Paydowns and settlements	**(5)**	(7)	(8)
Balance at end of period	**$ —**	$ 35	$ 41
Unrealized gains (losses) recorded in earnings and attributable to instruments still held at period end	**$ —**	$ 2	$ 3

Fair Value Option

We may elect the fair value option for financial instruments, such as advances, MPF Loans held for sale, and consolidated obligation discount notes and bonds, in cases where hedge accounting treatment may not be achieved due to the inability to meet the hedge effectiveness testing criteria, or in certain cases where we wish to mitigate the risk associated with selecting the fair value option for other instruments. Financial instruments for which we elected the fair value option along with their related fair value are shown on our statements of condition. Refer to **Note 2 - Summary of Significant Accounting Policies** for further details.

The following table presents the changes in fair values of financial assets and liabilities carried at fair value under the fair value option. These changes were recognized in noninterest income - instruments held under the fair value option in our statements of income.

For the years ended December 31,	**2020**	2019	2018
Advances	**$ 64**	$ 50	$ (2)
Bonds	**(3)**	(14)	(11)
Other	**(1)**	(1)	(6)
Noninterest income - Instruments held under fair value option	**$ 60**	$ 35	$ (19)

The following table reflects the difference between the aggregate unpaid principal balance (UPB) outstanding and the aggregate fair value for our long term financial instruments for which the fair value option has been elected. None of the advances were 90 days or more past due and none were on nonaccrual status.

	December 31, 2020		December 31, 2019	
As of	**Advances**	**Consolidated Obligation Bonds**	Advances	Consolidated Obligation Bonds
Unpaid principal balance	**$ 1,213**	**$ 1,839**	$ 2,768	$ 7,955
Fair value over (under) UPB	**102**	**5**	40	29
Fair value	**$ 1,315**	**$ 1,844**	$ 2,808	$ 7,984

Notes to Financial Statements
(Dollars in tables in millions except per share amounts unless otherwise indicated)

Note 16 – Commitments and Contingencies

The following table shows our commitments outstanding, which represent off balance sheet obligations.

	December 31, 2020			December 31, 2019		
As of	**Expire within one year**	**Expire after one year**	**Total**	Expire within one year	Expire after one year	Total
Member standby letters of credit	**$ 10,446**	**$ 5,949** [a]	**$ 16,395**	$ 18,077	$ 5,774 [a]	$ 23,851
MPF delivery commitments	**1,527**	**—**	**1,527**	615	—	615
Advance commitments	**583**	**12**	**595**	8	30	38
Housing authority standby bond purchase agreements	**10**	**455**	**465**	32	409	441
Unsettled consolidated obligation discount notes	**—**	**—**	**—**	750	—	750
Unsettled consolidated obligation bonds	**125**	**—**	**125**	81	—	81
Other	**3**	**—**	**3**	1	—	1
Commitments	**$ 12,694**	**$ 6,416**	**$ 19,110**	$ 19,564	$ 6,213	$ 25,777

[a] Contains $5.2 billion and $4.2 billion of member standby letters of credit at December 31, 2020 and December 31, 2019, which were renewable annually.

Commitments

Member standby letters of credit. A member standby letter of credit is a financing arrangement between us and our member. We execute a letter of credit with a member for a fee and require that member to fully collateralize the letter of credit at the time of issuance. If we are required to make payment for a beneficiary's draw, the payment amount is converted into a collateralized advance to the member if not reimbursed by the member. We monitor the creditworthiness of our members that have letters of credit. See **Note 8 - Allowance for Credit Losses** for information related to our credit risk for member standby letters of credit.

Housing authority standby bond purchase agreements. We enter into agreements with state housing authorities within our district to provide them liquidity for a fee. Specifically, if required under the terms of the agreement, we purchase and hold a state housing authority's bonds until their designated marketing agent can find a suitable investor or the state housing authority repurchases the bond. These standby bond purchase commitments have original expiration periods of up to 6 years, expiring no later than 2026, although some may be renewable at our option. We purchased no bonds under these agreements during the periods presented above.

Advance commitments. We enter into forward-starting advances, which lock in a predetermined interest rate for an advance that will be funded at a future date subject to certain conditions.

MPF delivery commitments. Includes delivery commitments to purchase all MPF Loans, including MPF Loans we hold in our portfolio and MPF Loans that are subsequently sold or securitized.

Contingencies

Joint and Several Liability on Behalf of Another FHLB. We have a contingent obligation for the payment of principal and interest on consolidated obligations of all the FHLBs resulting from our joint and several liability. We did not expect to pay any additional amounts under our joint and several liability as of December 31, 2020 and December 31, 2019.

Legal Proceedings. We may be subject to various legal proceedings arising in the normal course of business. After consultation with legal counsel, management is not aware of any such proceedings that might result in our ultimate liability in an amount that would have a material effect on our financial condition or results of operations.

Note 17 – Transactions with Related Parties and Other FHLBs

We define related parties as either members whose officers or directors serve on our Board of Directors, or members that control more than 10% of our total voting interests. We did not have any members that controlled more than 10% of our total voting interests for the periods presented in these financial statements.

In the normal course of business, we may extend credit to or enter into other transactions with a related party. These transactions are done at market terms that are no more favorable than the terms of comparable transactions with other members who are not considered related parties.

Members

The following table summarizes material balances we had with our members who are related parties as defined above (including their affiliates) as of the periods presented. The related net income impacts to our Statements of Income were not material.

As of	**December 31, 2020**	December 31, 2019
Assets - Advances	**$ 252**	$ 696
Liabilities - Deposits	**15**	10
Equity - Capital Stock	**17**	31

Other FHLBs

From time to time, we may loan to, or borrow from, other FHLBs. These transactions are done at market terms that are no more favorable than the terms of comparable transactions with other counterparties. These transactions are overnight, maturing the following business day.

In addition, we provide programmatic and operational support in our role as the administrator of the MPF Program on behalf of the other MPF Banks for a fee.

Material transactions with other FHLBs are identified on the face of our **Financial Statements**.

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Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

FEDERAL HOME LOAN BANK OF CHICAGO

/s/ Michael A. Ericson

By: Michael A. Ericson

Title: President and Chief Executive Officer

Date: March 9, 2021 (Principal Executive Officer)

/s/ Roger D. Lundstrom

By: Roger D. Lundstrom

Title: Executive Vice President and Chief Financial Officer

Date: March 9, 2021 (Principal Financial Officer and Principal Accounting Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Michael A. Ericson Michael A. Ericson	President and Chief Executive Officer (Principal Executive Officer)	March 9, 2021
/s/ Roger D. Lundstrom Roger D. Lundstrom	Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 9, 2021
**/s/ John K. Reinke* John K. Reinke	Chairperson of the Board of Directors	March 9, 2021
**/s/ James T. Ashworth* James T. Ashworth	Vice Chairperson of the Board of Directors	March 9, 2021
**/s/ Edward P. Brady* Edward P. Brady	Director	March 9, 2021
**/s/ Mary J. Cahillane* Mary J. Cahillane	Director	March 9, 2021
**/s/ Mark J. Eppli* Mark J. Eppli	Director	March 9, 2021
**/s/ Joseph Fazio III* Joseph Fazio III	Director	March 9, 2021
**/s/ Michelle L. Gross* Michelle L. Gross	Director	March 9, 2021

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Signature	Title	Date
**/s/ James H. Hegenbarth* James H. Hegenbarth	Director	March 9, 2021
**/s/ Phyllis Lockett* Phyllis Lockett	Director	March 9, 2021
**/s/ David J. Loundy* David J. Loundy	Director	March 9, 2021
**/s/ David R. Pirsein* David R. Pirsein	Director	March 9, 2021
**/s/ Leo J. Ries* Leo J. Ries	Director	March 9, 2021
**/s/ Lois A. Scott* Lois A. Scott	Director	March 9, 2021
**/s/ Michael G. Steelman* Michael G. Steelman	Director	March 9, 2021
**/s/ Ty R. Taylor* Ty R. Taylor	Director	March 9, 2021
**/s/ Daniel G. Watts* Daniel G. Watts	Director	March 9, 2021
**/s/ Gregory A. White* Gregory A. White	Director	March 9, 2021

** By: /s/ Laura M. Turnquest* March 9, 2021
Laura M. Turnquest, Attorney-in-fact