UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

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

For the quarterly period ended June 30, 2023

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. 000-51399

FEDERAL HOME LOAN BANK OF CINCINNATI

(Exact name of registrant as specified in its charter)

Federally chartered corporation of the United States	**31-6000228**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
600 Atrium Two, P.O. Box 598, Cincinnati, Ohio	**45201-0598**
(Address of principal executive offices)	*(Zip Code)*

(513) 852-7500

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

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

☒ Yes ☐ No

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

☒ Yes ☐ No

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☒ No

The capital stock of the registrant is not listed on any securities exchange or quoted on any automated quotation system, only may be owned by members and former members and is transferable only at its par value of $100 per share. As of July 31, 2023, the registrant had 51,123,749 shares of capital stock outstanding, which included stock classified as mandatorily redeemable.

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements.

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF CONDITION
(Unaudited)

(In thousands, except par value)

	June 30, 2023	December 31, 2022
ASSETS		
Cash and due from banks	$ 20,274	$ 19,604
Interest-bearing deposits	2,245,131	1,770,194
Securities purchased under agreements to resell	12,205,490	519,540
Federal funds sold	14,153,000	5,399,000
Investment securities:		
Trading securities	1,728,492	1,979,816
Available-for-sale securities (amortized cost of $9,726,311 and $8,680,491 at June 30, 2023 and December 31, 2022, respectively)	9,692,947	8,631,765
Held-to-maturity securities (fair value of $15,516,658 and $14,983,043 at June 30, 2023 and December 31, 2022, respectively)	15,833,684	15,304,359
Total investment securities	27,255,123	25,915,940
Advances (includes $103,313 and $4,954 at fair value under fair value option at June 30, 2023 and December 31, 2022, respectively)	86,890,470	67,019,555
Mortgage loans held for portfolio, net of allowance for credit losses of $338 and $301 at June 30, 2023 and December 31, 2022, respectively	6,996,186	7,162,509
Accrued interest receivable	635,623	283,132
Derivative assets	701,758	490,560
Other assets, net	26,342	29,470
TOTAL ASSETS	$ 151,129,397	$ 108,609,504
LIABILITIES		
Deposits	$ 1,151,572	$ 1,039,427
Consolidated Obligations:		
Discount Notes (includes $15,143,932 and $21,010,746 at fair value under fair value option at June 30, 2023 and December 31, 2022, respectively)	48,336,904	40,691,180
Bonds (includes $19,291,817 and $5,469,583 at fair value under fair value option at June 30, 2023 and December 31, 2022, respectively)	93,212,525	59,667,745
Total Consolidated Obligations	141,549,429	100,358,925
Mandatorily redeemable capital stock	15,965	17,453
Accrued interest payable	463,628	290,194
Affordable Housing Program payable	121,287	87,923
Derivative liabilities	152	460
Other liabilities	430,807	312,891
Total liabilities	143,732,840	102,107,273
Commitments and contingencies		
CAPITAL		
Capital stock Class B putable ($100 par value); issued and outstanding shares: 58,484 shares at June 30, 2023 and 51,507 shares at December 31, 2022	5,848,415	5,150,679
Retained earnings:		
Unrestricted	953,205	840,774
Restricted	629,111	560,118
Total retained earnings	1,582,316	1,400,892
Accumulated other comprehensive income (loss)	(34,174)	(49,340)
Total capital	7,396,557	6,502,231
TOTAL LIABILITIES AND CAPITAL	$ 151,129,397	$ 108,609,504

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

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF INCOME
(Unaudited)

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
INTEREST INCOME:				
Advances	$ 1,439,257	$ 120,653	$ 2,335,866	$ 165,971
Prepayment fees on Advances, net	1,703	304	1,734	3,003
Interest-bearing deposits	36,180	1,924	61,030	2,103
Securities purchased under agreements to resell	59,281	2,404	82,798	3,332
Federal funds sold	188,295	19,982	276,164	23,207
Investment securities:				
Trading securities	17,296	29,744	35,750	67,570
Available-for-sale securities	129,326	16,944	236,437	21,962
Held-to-maturity securities	190,568	33,909	360,465	57,817
Total investment securities	337,190	80,597	632,652	147,349
Mortgage loans held for portfolio	52,023	50,848	104,815	99,424
Loans to other FHLBanks	341	112	823	112
Total interest income	2,114,270	276,824	3,495,882	444,501
INTEREST EXPENSE:				
Consolidated Obligations:				
Discount Notes	768,292	83,780	1,315,733	94,582
Bonds	1,086,138	119,330	1,728,134	194,405
Total Consolidated Obligations	1,854,430	203,110	3,043,867	288,987
Deposits	12,227	1,760	23,945	1,939
Mandatorily redeemable capital stock	972	831	1,228	1,662
Other borrowings	1	—	1	—
Total interest expense	1,867,630	205,701	3,069,041	292,588
NET INTEREST INCOME	246,640	71,123	426,841	151,913
NON-INTEREST INCOME (LOSS):				
Net gains (losses) on investment securities	(26,646)	(87,823)	(1,286)	(247,986)
Net gains (losses) on financial instruments held under fair value option	60,435	60,753	25,623	79,431
Net gains (losses) on derivatives	(4,363)	20,369	(12,279)	117,474
Other, net	7,493	6,801	14,483	13,988
Total non-interest income (loss)	36,919	100	26,541	(37,093)
NON-INTEREST EXPENSE:				
Compensation and benefits	13,634	13,020	27,718	27,126
Other operating expenses	7,649	5,831	15,071	11,993
Finance Agency	2,744	1,650	5,488	3,447
Office of Finance	1,919	1,405	3,239	3,164
Voluntary housing contributions	14,394	1,238	14,816	1,561
Other	1,389	2,913	3,623	4,369
Total non-interest expense	41,729	26,057	69,955	51,660
INCOME BEFORE ASSESSMENTS	241,830	45,166	383,427	63,160
Affordable Housing Program assessments	24,281	4,599	38,466	6,482
NET INCOME	$ 217,549	$ 40,567	$ 344,961	$ 56,678

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

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Net income	$ 217,549	$ 40,567	$ 344,961	$ 56,678
Other comprehensive income (loss) adjustments:				
Net unrealized gains (losses) on available-for-sale securities	18,408	(9,988)	15,362	(47,760)
Pension and postretirement benefits	(98)	509	(196)	1,018
Total other comprehensive income (loss) adjustments	18,310	(9,479)	15,166	(46,742)
Comprehensive income (loss)	$ 235,859	$ 31,088	$ 360,127	$ 9,936

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

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF CAPITAL
(Unaudited)

(In thousands)	Capital Stock Class B - Putable		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
	Shares	Par Value	Unrestricted	Restricted	Total		
BALANCE, MARCH 31, 2022	30,005	$ 3,000,535	$ 783,592	$ 512,941	$ 1,296,533	$ (24,169)	$ 4,272,899
Comprehensive income (loss)			32,454	8,113	40,567	(9,479)	31,088
Proceeds from sale of capital stock	14,322	1,432,185					1,432,185
Net shares reclassified to mandatorily redeemable capital stock	(182)	(18,191)					(18,191)
Cash dividends on capital stock			(22,896)		(22,896)		(22,896)
BALANCE, JUNE 30, 2022	44,145	$ 4,414,529	$ 793,150	$ 521,054	$ 1,314,204	$ (33,648)	$ 5,695,085
BALANCE, MARCH 31, 2023	66,054	$ 6,605,424	$ 868,665	$ 585,601	$ 1,454,266	$ (52,484)	$ 8,007,206
Comprehensive income (loss)			174,039	43,510	217,549	18,310	235,859
Proceeds from sale of capital stock	5,209	520,862					520,862
Repurchase of capital stock	(9,651)	(965,108)					(965,108)
Net shares reclassified to mandatorily redeemable capital stock	(3,128)	(312,763)					(312,763)
Cash dividends on capital stock			(89,499)		(89,499)		(89,499)
BALANCE, JUNE 30, 2023	58,484	$ 5,848,415	$ 953,205	$ 629,111	$ 1,582,316	$ (34,174)	$ 7,396,557

(In thousands)	Capital Stock Class B - Putable		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
	Shares	Par Value	Unrestricted	Restricted	Total		
BALANCE, DECEMBER 31, 2021	24,900	$ 2,490,016	$ 783,072	$ 509,719	$ 1,292,791	$ 13,094	$ 3,795,901
Comprehensive income (loss)			45,343	11,335	56,678	(46,742)	9,936
Proceeds from sale of capital stock	33,439	3,343,863					3,343,863
Net shares reclassified to mandatorily redeemable capital stock	(14,194)	(1,419,350)					(1,419,350)
Cash dividends on capital stock			(35,265)		(35,265)		(35,265)
BALANCE, JUNE 30, 2022	44,145	$ 4,414,529	$ 793,150	$ 521,054	$ 1,314,204	$ (33,648)	$ 5,695,085
BALANCE, DECEMBER 31, 2022	51,507	$ 5,150,679	$ 840,774	$ 560,118	$ 1,400,892	$ (49,340)	$ 6,502,231
Comprehensive income (loss)			275,968	68,993	344,961	15,166	360,127
Proceeds from sale of capital stock	36,295	3,629,524					3,629,524
Repurchase of capital stock	(26,184)	(2,618,405)					(2,618,405)
Net shares reclassified to mandatorily redeemable capital stock	(3,134)	(313,383)					(313,383)
Cash dividends on capital stock			(163,537)		(163,537)		(163,537)
BALANCE, JUNE 30, 2023	58,484	$ 5,848,415	$ 953,205	$ 629,111	$ 1,582,316	$ (34,174)	$ 7,396,557

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

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF CASH FLOWS
(Unaudited)

(In thousands)	Six Months Ended June 30,	
	2023	2022
OPERATING ACTIVITIES:		
Net income	$ 344,961	$ 56,678
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization/(accretion)	347,249	79,455
Net change in derivative and hedging activities	36,237	889,605
Net change in fair value adjustments on trading securities	1,286	247,986
Net change in fair value adjustments on financial instruments held under fair value option	(25,623)	(79,431)
Other adjustments, net	491	460
Net change in:		
Accrued interest receivable	(353,946)	(46,903)
Other assets	4,485	4,885
Accrued interest payable	338,261	40,285
Other liabilities	34,172	(7,193)
Total adjustments	382,612	1,129,149
Net cash provided by (used in) operating activities	727,573	1,185,827
INVESTING ACTIVITIES:		
Net change in:		
Interest-bearing deposits	(659,209)	(639,919)
Securities purchased under agreements to resell	(11,685,950)	(1,244,990)
Federal funds sold	(8,754,000)	(4,665,000)
Premises, software, and equipment	(2,953)	(606)
Trading securities:		
Proceeds from maturities and paydowns	250,038	2,975,051
Proceeds from sales	—	500,976
Available-for-sale securities:		
Purchases	(933,804)	(2,965,670)
Held-to-maturity securities:		
Proceeds from maturities and paydowns	930,667	873,299
Purchases	(1,460,737)	(2,706,277)
Advances:		
Repaid	1,102,625,432	547,226,216
Originated	(1,122,599,388)	(580,273,996)
Mortgage loans held for portfolio:		
Principal collected	295,371	708,097
Purchases	(138,398)	(547,855)
Net cash provided by (used in) investing activities	(42,132,931)	(40,760,674)

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

(continued from previous page)

FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF CASH FLOWS
(Unaudited)

(In thousands)	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
FINANCING ACTIVITIES:		
Net change in deposits and pass-through reserves	$ 163,655	$ (188,052)
Net proceeds from issuance of Consolidated Obligations:		
Discount Notes	137,487,809	164,158,139
Bonds	80,740,832	30,512,545
Bonds transferred from other FHLBanks	249,999	—
Payments for maturing and retiring Consolidated Obligations:		
Discount Notes	(130,182,033)	(136,942,872)
Bonds	(47,586,945)	(17,135,750)
Proceeds from issuance of capital stock	3,629,524	3,343,863
Payments for repurchase of capital stock	(2,618,405)	—
Payments for repurchase/redemption of mandatorily redeemable capital stock	(314,871)	(1,420,863)
Cash dividends paid	(163,537)	(35,265)
Net cash provided by (used in) financing activities	41,406,028	42,291,745
Net increase (decrease) in cash and due from banks	670	2,716,898
Cash and due from banks at beginning of the period	19,604	167,822
Cash and due from banks at end of the period	$ 20,274	$ 2,884,720
Supplemental Disclosures:		
Interest paid	$ 2,518,784	$ 216,905
Affordable Housing Program payments, net	$ 12,409	$ 11,510

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

FEDERAL HOME LOAN BANK OF CINCINNATI

NOTES TO UNAUDITED FINANCIAL STATEMENTS

Background Information

The Federal Home Loan Bank of Cincinnati (the FHLB), a federally chartered corporation, is one of 11 District Federal Home Loan Banks (FHLBanks). The FHLBanks are government-sponsored enterprises (GSEs) that were organized under the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), to serve the public by enhancing the availability of credit for residential mortgages and targeted community development. The FHLB is regulated by the Federal Housing Finance Agency (Finance Agency). The FHLBanks are financial cooperatives that provide a readily available, competitively-priced source of funds to their member institutions.

Note 1 - Basis of Presentation

The accompanying interim financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The preparation of financial statements in accordance with GAAP requires management to make assumptions and estimates. These assumptions and estimates affect the reported amount of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expenses. Actual results could differ from these estimates. The interim financial statements presented are unaudited, but they include all adjustments (consisting of only normal recurring adjustments) which are, in the opinion of management, necessary for a fair presentation of the financial condition, results of operations, and cash flows for such periods. These financial statements do not include all disclosures associated with annual financial statements and accordingly should be read in conjunction with the audited financial statements and notes included in the FHLB's Annual Report on Form 10-K for the year ended December 31, 2022 filed with the Securities and Exchange Commission (SEC). Results for the six months ended June 30, 2023 are not necessarily indicative of operating results for the full year.

The FHLB presents certain financial instruments, including derivative instruments and securities purchased under agreements to resell, on a net basis when it has a legal right of offset and all other requirements for netting are met (collectively referred to as the netting requirements). For these instruments, the FHLB has elected to offset its asset and liability positions, as well as cash collateral received or pledged, when it has met the netting requirements. The FHLB did not have any offsetting liabilities related to its securities purchased under agreements to resell for the periods presented.

The net exposure for these financial instruments can change on a daily basis; therefore, there may be a delay between the time this exposure change is identified and additional collateral is requested, and the time this collateral is received or pledged. Likewise, there may be a delay for excess collateral to be returned. For derivative instruments that meet the requirements for netting, any excess cash collateral received or pledged is recognized as a derivative liability or derivative asset. Additional information regarding these agreements is provided in Note 6. Based on the fair value of the related collateral held, the securities purchased under agreements to resell were fully collateralized for the periods presented. For more information about the FHLB's investments in securities purchased under agreements to resell, see “Item 8. Financial Statements and Supplementary Data - Note 1 - Summary of Significant Accounting Policies” in the FHLB's 2022 Annual Report on Form 10-K.

Subsequent Events

The FHLB has evaluated subsequent events for potential recognition or disclosure through the issuance of these financial statements and believes there have been no material subsequent events requiring additional disclosure or recognition in these financial statements.

Note 2 - Recently Issued and Adopted Accounting Guidance

Troubled Debt Restructurings and Vintage Disclosures. In March 2022, the Financial Accounting Standards Board (FASB) issued guidance that eliminates the accounting guidance for troubled debt restructurings by creditors that have adopted the current expected credit losses methodology while enhancing disclosure requirements for certain loan refinancings and restructurings by creditors made to borrowers experiencing financial difficulty. The guidance became effective for the FHLB for the interim and annual periods beginning on January 1, 2023. The adoption of this guidance affected the FHLB's disclosures, but did not have any effect on the FHLB's financial condition, results of operations, or cash flows.

Fair Value Hedging - Portfolio Layer Method. In March 2022, the FASB issued guidance that expands fair value hedging under the current last-of-layer method by allowing multiple hedged layers of a single closed portfolio under the method. To reflect that expansion, the last-of-layer method is renamed the portfolio layer method. Additionally, among other things, this guidance (1) expands the scope of the portfolio layer method to include nonprepayable assets, (2) specifies eligible hedging instruments in a single-layer hedge, (3) provides additional guidance on the accounting for and disclosure of hedge basis adjustments under the portfolio layer method, and (4) specifies how hedge basis adjustments should be considered when determining credit losses for the assets included in the closed portfolio. The guidance became effective for the FHLB for the interim and annual periods beginning on January 1, 2023. The FHLB adopted this guidance as of January 1, 2023 and it did not have any effect on the FHLB's financial condition, results of operations, and cash flows. The FHLB may elect the fair value hedging portfolio layer method in the future.

Facilitation of the Effects of Reference Rate Reform on Financial Reporting, as amended. In March 2020, the FASB issued temporary, optional guidance to ease the potential burden in accounting for reference rate reform. The new guidance provides optional expedients and exceptions for applying GAAP to transactions affected by reference rate reform if certain criteria are met. The transactions primarily include (1) contract modifications, (2) hedging relationships, and (3) sale and/or transfer of debt securities classified as held-to-maturity. This guidance became effective for the FHLB beginning March 12, 2020 and may be applied through December 31, 2024. The FHLB elected optional practical expedients specific to fair value hedging relationships and contract modifications, which did not have a material effect, and may elect additional optional expedients in the future.

Note 3 - Investments

The FHLB makes short-term investments in interest-bearing deposits, securities purchased under agreements to resell, and Federal funds sold and may make other investments in debt securities, which are classified as either trading, available-for-sale, or held-to-maturity.

Interest-Bearing Deposits, Securities Purchased under Agreements to Resell, and Federal Funds Sold

The FHLB invests in interest-bearing deposits, securities purchased under agreements to resell, and Federal funds sold to provide liquidity.

Interest-bearing deposits and Federal funds sold are generally transacted with counterparties that have received a credit rating of single-A or greater by a nationally recognized statistical rating organization (NRSRO). The FHLB’s internal ratings of these counterparties may differ from those issued by an NRSRO. Finance Agency regulations include a limit on the amount of unsecured credit the FHLB may extend to a counterparty. At June 30, 2023 and December 31, 2022, all investments in interest-bearing deposits and Federal funds sold were repaid or expected to be repaid according to their respective contractual terms. No allowance for credit losses was recorded for these assets at June 30, 2023 and December 31, 2022. Carrying values of interest-bearing deposits and Federal funds sold exclude accrued interest receivable of (in thousands) $9,627 and $1,993 as of June 30, 2023, and $5,524 and $1,299 as of December 31, 2022.

Securities purchased under agreements to resell are short-term and are structured such that they are evaluated regularly to determine if the market value of the underlying securities decreases below the market value required as collateral (i.e., subject to collateral maintenance provisions). If so, the counterparty must place an equivalent amount of additional securities as collateral or remit an equivalent amount of cash, generally by the next business day. Based upon the collateral held as security and collateral maintenance provisions with counterparties, the FHLB determined that no allowance for credit losses was needed for its securities purchased under agreements to resell at June 30, 2023 and December 31, 2022. The carrying value of securities purchased under agreements to resell excludes accrued interest receivable of (in thousands) $1,793 and $232 as of June 30, 2023 and December 31, 2022, respectively.

Debt Securities

The FHLB invests in debt securities, which are classified as either trading, available-for-sale, or held-to-maturity. The FHLB is prohibited by Finance Agency regulations from purchasing certain higher-risk securities, such as equity securities and debt instruments that are not investment quality, other than certain investments targeted at low-income persons or communities. The FHLB is not required to divest instruments that experience credit deterioration after their purchase.

Trading Securities

Table 3.1 - Trading Securities by Major Security Types (in thousands)

Fair Value	June 30, 2023	December 31, 2022
Non-mortgage-backed securities (non-MBS):		
U.S. Treasury obligations	$ 244,612	$ 491,464
GSE obligations	1,483,801	1,488,235
Total non-MBS	1,728,413	1,979,699
Mortgage-backed securities (MBS):		
U.S. obligation single-family	79	117
Total MBS	79	117
Total	$ 1,728,492	$ 1,979,816

Table 3.2 - Net Gains (Losses) on Trading Securities (in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Net unrealized gains (losses) on trading securities held at period end	$ (27,033)	$ (82,502)	$ (2,693)	$ (225,331)
Net gains (losses) on trading securities sold/ matured during the period	387	(5,321)	1,407	(22,655)
Net gains (losses) on trading securities	$ (26,646)	$ (87,823)	$ (1,286)	$ (247,986)

Available-for-Sale Securities

Table 3.3 - Available-for-Sale Securities by Major Security Types (in thousands)

	June 30, 2023			
	Amortized Cost [(1)]	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Non-MBS:				
U.S. Treasury obligations	$ 7,446,523	$ 7,858	$ (2,721)	$ 7,451,660
GSE obligations	117,165	741	(69)	117,837
Total non-MBS	7,563,688	8,599	(2,790)	7,569,497
MBS:				
GSE multi-family	2,162,623	2,680	(41,853)	2,123,450
Total MBS	2,162,623	2,680	(41,853)	2,123,450
Total	$ 9,726,311	$ 11,279	$ (44,643)	$ 9,692,947

	December 31, 2022			
	Amortized Cost [(1)]	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Non-MBS:				
U.S. Treasury obligations	$ 7,202,715	$ 3,584	$ (12,028)	$ 7,194,271
GSE obligations	117,555	726	(199)	118,082
Total non-MBS	7,320,270	4,310	(12,227)	7,312,353
MBS:				
GSE multi-family	1,360,221	—	(40,809)	1,319,412
Total MBS	1,360,221	—	(40,809)	1,319,412
Total	$ 8,680,491	$ 4,310	$ (53,036)	$ 8,631,765

(1) Amortized cost of available-for-sale securities includes adjustments made to the cost basis of an investment for accretion, amortization, and/or fair value hedge accounting adjustments, and excludes accrued interest receivable of (in thousands) $38,902 and $40,246 at June 30, 2023 and December 31, 2022, respectively.

Table 3.4 summarizes the available-for-sale securities with gross unrealized losses, which are aggregated by major security type and length of time that individual securities have been in a continuous gross unrealized loss position.

Table 3.4 - Available-for-Sale Securities in a Continuous Gross Unrealized Loss Position (in thousands)

	June 30, 2023					
	Less than 12 Months		12 Months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Non-MBS:						
U.S. Treasury obligations	$1,812,209	$ (1,225)	$ 885,591	$ (1,496)	$2,697,800	$ (2,721)
GSE obligations	3,677	(7)	4,401	(62)	8,078	(69)
Total non-MBS	1,815,886	(1,232)	889,992	(1,558)	2,705,878	(2,790)
MBS:						
GSE multi-family MBS	872,603	(7,905)	1,013,714	(33,948)	1,886,317	(41,853)
Total MBS	872,603	(7,905)	1,013,714	(33,948)	1,886,317	(41,853)
Total	$2,688,489	$ (9,137)	$1,903,706	$ (35,506)	$4,592,195	$ (44,643)

	December 31, 2022					
	Less than 12 Months		12 Months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Non-MBS:						
U.S. Treasury obligations	$4,624,895	$ (12,028)	$ —	$ —	$4,624,895	$ (12,028)
GSE obligations	9,887	(199)	—	—	9,887	(199)
Total non-MBS	4,634,782	(12,227)	—	—	4,634,782	(12,227)
MBS:						
GSE multi-family MBS	959,421	(22,519)	359,991	(18,290)	1,319,412	(40,809)
Total MBS	959,421	(22,519)	359,991	(18,290)	1,319,412	(40,809)
Total	$5,594,203	$ (34,746)	$ 359,991	$ (18,290)	$5,954,194	$ (53,036)

Table 3.5 - Available-for-Sale Securities by Contractual Maturity (in thousands)

	June 30, 2023		December 31, 2022	
Year of Maturity	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Non-MBS:				
Due in 1 year or less	$ —	$ —	$ —	$ —
Due after 1 year through 5 years	4,824,447	4,828,548	2,576,167	2,577,121
Due after 5 years through 10 years	2,729,095	2,730,862	4,734,017	4,725,345
Due after 10 years	10,146	10,087	10,086	9,887
Total non-MBS	7,563,688	7,569,497	7,320,270	7,312,353
MBS (1)	2,162,623	2,123,450	1,360,221	1,319,412
Total	$ 9,726,311	$ 9,692,947	$ 8,680,491	$ 8,631,765

(1) MBS are not presented by contractual maturity because their expected maturities will likely differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

Table 3.6 - Interest Rate Payment Terms of Available-for-Sale Securities (in thousands)

	June 30, 2023	December 31, 2022
Amortized cost of non-MBS:		
Fixed-rate	$ 7,563,688	$ 7,320,270
Total amortized cost of non-MBS	7,563,688	7,320,270
Amortized cost of MBS:		
Fixed-rate	2,162,623	1,360,221
Total amortized cost of MBS	2,162,623	1,360,221
Total	$ 9,726,311	$ 8,680,491

The FHLB had no sales of securities out of its available-for-sale portfolio for the six months ended June 30, 2023 or 2022.

Held-to-Maturity Securities

Table 3.7 - Held-to-Maturity Securities by Major Security Types (in thousands)

	June 30, 2023			
	Amortized Cost (1)	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Fair Value
Non-MBS:				
GSE obligations	$ 47,749	$ 4	$ —	$ 47,753
Total non-MBS	47,749	4	—	47,753
MBS:				
U.S. obligation single-family	1,172,846	—	(147,234)	1,025,612
GSE single-family	2,314,864	2,239	(106,383)	2,210,720
GSE multi-family	12,298,225	1,014	(66,666)	12,232,573
Total MBS	15,785,935	3,253	(320,283)	15,468,905
Total	$ 15,833,684	$ 3,257	$ (320,283)	$ 15,516,658

	December 31, 2022			
	Amortized Cost (1)	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Fair Value
Non-MBS:				
U.S. Treasury obligations	$ 47,405	$ —	$ (51)	$ 47,354
Total non-MBS	47,405	—	(51)	47,354
MBS:				
U.S. obligation single-family	1,232,001	—	(147,423)	1,084,578
GSE single-family	1,632,099	4,074	(101,140)	1,535,033
GSE multi-family	12,392,854	598	(77,374)	12,316,078
Total MBS	15,256,954	4,672	(325,937)	14,935,689
Total	$ 15,304,359	$ 4,672	$ (325,988)	$ 14,983,043

(1) Carrying value equals amortized cost. Amortized cost of held-to-maturity securities includes adjustments made to the cost basis of an investment for accretion and amortization and excludes accrued interest receivable of (in thousands) $60,752 and $48,937 as of June 30, 2023 and December 31, 2022, respectively.

Table 3.8 - Held-to-Maturity Securities by Contractual Maturity (in thousands)

	June 30, 2023		December 31, 2022	
Year of Maturity	**Amortized Cost (1)**	**Fair Value**	**Amortized Cost (1)**	**Fair Value**
Non-MBS:				
Due in 1 year or less	$ 47,749	$ 47,753	$ 47,405	$ 47,354
Due after 1 year through 5 years	—	—	—	—
Due after 5 years through 10 years	—	—	—	—
Due after 10 years	—	—	—	—
Total non-MBS	47,749	47,753	47,405	47,354
MBS (2)	15,785,935	15,468,905	15,256,954	14,935,689
Total	$ 15,833,684	$ 15,516,658	$ 15,304,359	$ 14,983,043

(1) Carrying value equals amortized cost.
(2) MBS are not presented by contractual maturity because their expected maturities will likely differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

Table 3.9 - Interest Rate Payment Terms of Held-to-Maturity Securities (in thousands)

	June 30, 2023	December 31, 2022
Amortized cost of non-MBS:		
Fixed-rate	$ 47,749	$ 47,405
Total amortized cost of non-MBS	47,749	47,405
Amortized cost of MBS:		
Fixed-rate	3,342,181	2,709,494
Variable-rate	12,443,754	12,547,460
Total amortized cost of MBS	15,785,935	15,256,954
Total	$ 15,833,684	$ 15,304,359

For the six months ended June 30, 2023 and 2022, the FHLB did not sell any held-to-maturity securities.

Allowance for Credit Losses on Available-for-Sale and Held-to-Maturity Securities

The FHLB evaluates available-for-sale and held-to-maturity investment securities for credit losses on a quarterly basis. The FHLB's available-for-sale and held-to-maturity securities are U.S. Treasury obligations, GSE obligations, and MBS issued by Fannie Mae, Freddie Mac and Ginnie Mae that are backed by single-family or multi-family mortgage loans. The FHLB only purchases securities considered investment quality. At June 30, 2023 and December 31, 2022, all available-for-sale and held-to-maturity securities were rated single-A, or above, by an NRSRO, based on the lowest long-term credit rating for each security owned by the FHLB. The FHLB's internal ratings of these securities may differ from those obtained from an NRSRO.

The FHLB evaluates individual available-for-sale securities for impairment by comparing the security's fair value to its amortized cost. Impairment may exist when the fair value of the investment is less than its amortized cost (i.e., in an unrealized loss position). At June 30, 2023 and December 31, 2022, certain available-for-sale securities were in an unrealized loss position. These losses are considered temporary as the FHLB expects to recover the entire amortized cost basis on these available-for-sale investment securities and does not intend to sell these securities nor considers it more likely than not that it will be required to sell these securities before the anticipated recovery of each security's remaining amortized cost basis. Further, the FHLB has not experienced any payment defaults on the instruments and all of these securities are highly-rated. In the case of U.S. obligations, they carry an explicit government guarantee. In the case of GSE securities, they are purchased under the assumption that the issuers' obligation to pay principal and interest on those securities will be honored, taking into account their status as GSEs. As a result, no allowance for credit losses was recorded on these available-for-sale securities at June 30, 2023 and December 31, 2022.

The FHLB evaluates its held-to-maturity securities for impairment on a collective, or pooled basis, unless an individual assessment is deemed necessary because the securities do not possess similar risk characteristics. As of June 30, 2023 and December 31, 2022, the FHLB had not established an allowance for credit loss on any held-to-maturity securities because the securities: (1) were all highly-rated and/or had short remaining terms to maturity, (2) had not experienced, nor did the FHLB expect, any payment default on the instruments, (3) in the case of U.S. obligations, the securities carry an explicit government guarantee such that the FHLB considered the risk of nonpayment to be zero, and (4) in the case of GSE securities, they are purchased under an assumption that the issuers' obligation to pay principal and interest on those securities will be honored, taking into account their status as GSEs.

Note 4 - Advances

The following table presents Advance redemptions by contractual maturity, including index-amortizing Advances, which are presented according to their predetermined amortization schedules.

Table 4.1 - Advances by Redemption Term (dollars in thousands)

	June 30, 2023		December 31, 2022	
Redemption Term	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Overdrawn demand deposit accounts	$ 1,606	5.58 %	$ —	— %
Due in 1 year or less	60,453,871	5.29	51,491,191	4.36
Due after 1 year through 2 years	10,743,878	4.88	5,904,109	3.69
Due after 2 years through 3 years	5,854,782	4.99	2,969,160	4.01
Due after 3 years through 4 years	4,007,375	3.64	2,418,222	4.14
Due after 4 years through 5 years	4,440,625	3.94	2,462,903	3.28
Thereafter	1,899,839	2.49	2,182,434	2.29
Total principal amount	87,401,976	5.02	67,428,019	4.17
Commitment fees	(87)		(90)	
Discounts	(1,740)		(2,073)	
Fair value hedging adjustments	(508,372)		(406,255)	
Fair value option valuation adjustments and accrued interest	(1,307)		(46)	
Total (1)	$ 86,890,470		$ 67,019,555	

(1) Carrying values exclude accrued interest receivable of (in thousands) $486,408 and $149,255 as of June 30, 2023 and December 31, 2022, respectively.

The FHLB offers certain fixed- and variable-rate Advances to members that may be prepaid on specified dates (call dates) without incurring prepayment or termination fees (callable Advances). Other Advances may only be prepaid subject to a prepayment fee paid to the FHLB that makes the FHLB financially indifferent to the prepayment of the Advance.

Table 4.2 - Advances by Redemption Term or Next Call Date (in thousands)

Redemption Term or Next Call Date	June 30, 2023	December 31, 2022
Overdrawn demand deposit accounts	$ 1,606	$ —
Due in 1 year or less	66,454,371	54,497,542
Due after 1 year through 2 years	7,743,378	5,901,058
Due after 2 years through 3 years	2,877,402	1,465,860
Due after 3 years through 4 years	4,007,375	918,222
Due after 4 years through 5 years	4,418,005	2,462,903
Thereafter	1,899,839	2,182,434
Total principal amount	$ 87,401,976	$ 67,428,019

The FHLB also offers putable Advances. With a putable Advance, the FHLB effectively purchases put options from the member that allows the FHLB to terminate the Advance at predetermined dates. The FHLB normally would exercise its put option when interest rates increase relative to contractual rates.

Table 4.3 - Advances by Redemption Term or Next Put Date for Putable Advances (in thousands)

Redemption Term or Next Put Date	June 30, 2023	December 31, 2022
Overdrawn demand deposit accounts	$ 1,606	$ —
Due in 1 year or less	61,073,871	52,461,191
Due after 1 year through 2 years	10,773,878	5,929,109
Due after 2 years through 3 years	5,909,782	2,989,160
Due after 3 years through 4 years	4,007,375	2,418,222
Due after 4 years through 5 years	4,415,625	2,382,903
Thereafter	1,219,839	1,247,434
Total principal amount	$ 87,401,976	$ 67,428,019

Table 4.4 - Advances by Interest Rate Payment Terms (in thousands)

	June 30, 2023	December 31, 2022
Total fixed-rate (1)	$ 61,028,690	$ 51,461,334
Total variable-rate (1)	26,373,286	15,966,685
Total principal amount	$ 87,401,976	$ 67,428,019

(1) Payment terms based on current interest rate terms, which reflect any option exercises or rate conversions that have occurred subsequent to the related Advance issuance.

Credit Risk Exposure and Security Terms

The FHLB manages its credit exposure to Advances through an integrated approach that includes establishing a credit limit for each borrower and ongoing review of each borrower's financial condition, coupled with collateral and lending policies to limit risk of loss while balancing borrowers' needs for a reliable source of funding.

In addition, the FHLB lends to eligible borrowers in accordance with federal law and Finance Agency regulations, which require the FHLB to obtain sufficient collateral to fully secure credit products. Under these regulations, collateral eligible to secure new or renewed Advances includes:

- one-to-four family mortgage loans (delinquent for no more than 60 days) and multi-family mortgage loans (delinquent for no more than 30 days) and securities representing such mortgages;
- loans and securities issued and insured, or guaranteed by the U.S. government or any U.S. government agency (for example, mortgage-backed securities issued or guaranteed by Fannie Mae, Freddie Mac, or Ginnie Mae);
- cash or deposits in the FHLB;
- certain other collateral that is real estate-related, provided that the collateral has a readily ascertainable value, can be reliably discounted to account for liquidation and other risks, can be liquidated in due course and the FHLB can perfect a security interest in it; and
- certain qualifying securities representing undivided equity interests in eligible Advance collateral.

Residential mortgage loans are the principal form of collateral for Advances. The estimated value of the collateral required to secure each member's credit products is calculated by applying collateral discounts, or haircuts, to the value of the collateral. In addition, community financial institutions are eligible to utilize expanded statutory collateral provisions for small business and agribusiness loans. The FHLB's capital stock owned by its member borrowers is also pledged as collateral. Collateral arrangements and a member’s borrowing capacity vary based on the financial condition and performance of the institution, the types of collateral pledged and the overall quality of those assets. The FHLB can also require additional or substitute collateral to protect its security interest. The FHLB also has policies and procedures for validating the reasonableness of its collateral valuations and makes changes to its collateral guidelines, as necessary, based on current market conditions. In addition, collateral verifications and reviews are performed by the FHLB based on the risk profile of the borrower. Management of the FHLB believes that these policies effectively manage the FHLB's credit risk from Advances.

Members experiencing financial difficulties are subject to FHLB-performed “stress tests” to evaluate the impact of poorly performing assets on the member’s capital and loss reserve positions. Depending on the results of these tests, a member may be allowed to maintain pledged loan assets in its custody, may be required to deliver those loans into the custody of the FHLB or its agent, or may be required to provide details on those loans to facilitate an estimate of their fair value. The FHLB perfects its security interest in all pledged collateral. The FHLBank Act affords any security interest granted to the FHLB by a member priority over the claims or rights of any other party except for claims or rights of a third party that would otherwise be entitled to priority under applicable law and that are held by a bona fide purchaser for value or by a secured party holding a prior perfected security interest.

Using a risk-based approach, the FHLB considers the payment status, collateralization levels, and borrower's financial condition to be indicators of credit quality for its credit products. At June 30, 2023 and December 31, 2022, the FHLB did not have any Advances that were past due, in non-accrual status or considered impaired. In addition, there were no modifications of Advances with borrowers experiencing financial difficulty during the six months ended June 30, 2023 or 2022. At June 30, 2023 and December 31, 2022, the FHLB had rights to collateral on a member-by-member basis with an estimated value in excess of its outstanding extensions of credit.

Based upon the collateral held as security, its credit extension and collateral policies and the repayment history on Advances, the FHLB did not expect any credit losses on Advances as of June 30, 2023 and, therefore, no allowance for credit losses on Advances was recorded. For the same reasons, the FHLB did not record any allowance for credit losses on Advances at December 31, 2022.

Advance Concentrations

Table 4.5 - Borrowers Holding Five Percent or more of Total Advances, Including Any Known Affiliates that are Members of the FHLB (dollars in millions)

June 30, 2023			December 31, 2022		
	Principal	**% of Total Principal Amount of Advances**		**Principal**	**% of Total Principal Amount of Advances**
U.S. Bank, N.A.	$ 20,500	23 %	U.S. Bank, N.A.	$ 19,000	28 %
Keybank, N.A.	15,339	18	Keybank, N.A.	11,344	17
The Huntington National Bank	6,501	7	Third Federal Savings and Loan Association	4,826	7
Third Federal Savings and Loan Association	5,428	6	Fifth Third Bank	4,301	6
Fifth Third Bank	5,301	6	Nationwide Life Insurance Company	3,136	5
Total	$ 53,069	60 %	Total	$ 42,607	63 %

Note 5 - Mortgage Loans

Total mortgage loans held for portfolio represent residential mortgage loans under the Mortgage Purchase Program (MPP) that the FHLB's members originate, credit enhance, and then sell to the FHLB. The FHLB does not service any of these loans.

Table 5.1 - Mortgage Loans Held for Portfolio (in thousands)

	June 30, 2023	December 31, 2022
Fixed rate medium-term single-family mortgage loans (1)	$ 487,009	$ 530,956
Fixed rate long-term single-family mortgage loans (2)	6,359,666	6,475,525
Total unpaid principal balance	6,846,675	7,006,481
Premiums	145,964	151,756
Discounts	(2,353)	(2,246)
Hedging basis adjustments (3)	6,238	6,819
Total mortgage loans held for portfolio (4)	6,996,524	7,162,810
Allowance for credit losses on mortgage loans	(338)	(301)
Mortgage loans held for portfolio, net	$ 6,996,186	$ 7,162,509

(1) Medium-term is defined as a term of 15 years or less.
(2) Long-term is defined as a term of greater than 15 years up to 30 years.
(3) Represents the unamortized balance of the mortgage purchase commitments' market values at the time of settlement. The market value of the commitment is included in the basis of the mortgage loan and amortized accordingly.
(4) Excludes accrued interest receivable of (in thousands) $21,564 and $21,846 at June 30, 2023 and December 31, 2022, respectively.

Table 5.2 - Mortgage Loans Held for Portfolio by Collateral/Guarantee Type (in thousands)

	June 30, 2023	December 31, 2022
Conventional mortgage loans	$ 6,741,813	$ 6,893,552
Federal Housing Administration (FHA) mortgage loans	104,862	112,929
Total unpaid principal balance	$ 6,846,675	$ 7,006,481

Table 5.3 - Members, Including Any Known Affiliates that are Members of the FHLB, and Former Members Selling Five Percent or more of Total Unpaid Principal (dollars in millions)

	June 30, 2023			December 31, 2022	
	Principal	% of Total		Principal	% of Total
Union Savings Bank	$ 1,576	23 %	Union Savings Bank	$ 1,651	24 %
FirstBank	728	11	FirstBank	730	10
Guardian Savings Bank FSB	421	6	Guardian Savings Bank FSB	438	6
The Huntington National Bank	344	5			

Credit Risk Exposure

The FHLB manages credit risk exposure for conventional mortgage loans primarily though conservative underwriting and purchasing loans with characteristics consistent with favorable expected credit performance and by applying various credit enhancements.

Credit Enhancements. The conventional mortgage loans under the MPP are primarily supported by some combination of credit enhancements (primary mortgage insurance (PMI) and the Lender Risk Account (LRA), including pooled LRA for those members participating in an aggregated MPP pool). These credit enhancements apply after a homeowner’s equity is exhausted. The LRA is funded by the FHLB upfront as a portion of the purchase proceeds. The LRA is recorded in other liabilities in the Statement of Condition. Excess funds from the LRA are released to the member in accordance with the terms of the Master Commitment Contract, which is typically after five years, subject to performance of the related loan pool. The LRA established for a pool of loans is limited to only covering losses of that specific pool of loans. Because the FHA makes an explicit guarantee on FHA mortgage loans, the FHLB does not require any credit enhancements on these loans beyond primary mortgage insurance.

Table 5.4 - Changes in the LRA (in thousands)

	Six Months Ended June 30, 2023
LRA at beginning of year	$ 244,254
Additions	1,626
Claims	(160)
Scheduled distributions	(3,629)
LRA at end of period	$ 242,091

Payment Status of Mortgage Loans. The key credit quality indicator for conventional mortgage loans is payment status, which allows the FHLB to monitor borrower performance. Past due loans are those where the borrower has failed to make a full payment of principal and interest within one month of its due date. Table 5.5 presents the payment status of conventional mortgage loans.

Table 5.5 - Credit Quality Indicator of Conventional Mortgage Loans (in thousands)

	June 30, 2023		
	Origination Year		
Payment status, at amortized cost:	Prior to 2019	2019 to June 30, 2023	Total
Past due 30-59 days	$ 17,382	$ 7,806	$ 25,188
Past due 60-89 days	3,769	1,080	4,849
Past due 90 days or more	7,592	1,901	9,493
Total past due mortgage loans	28,743	10,787	39,530
Current mortgage loans	2,463,415	4,387,969	6,851,384
Total conventional mortgage loans	$ 2,492,158	$ 4,398,756	$ 6,890,914

	December 31, 2022		
	Origination Year		
Payment status, at amortized cost:	Prior to 2018	2018 to 2022	Total
Past due 30-59 days	$ 12,643	$ 14,440	$ 27,083
Past due 60-89 days	3,303	1,751	5,054
Past due 90 days or more	8,251	3,682	11,933
Total past due mortgage loans	24,197	19,873	44,070
Current mortgage loans	2,404,090	4,600,889	7,004,979
Total conventional mortgage loans	$ 2,428,287	$ 4,620,762	$ 7,049,049

Other delinquency statistics include loans in process of foreclosure, serious delinquency rates, loans past due 90 days or more and still accruing interest, and non-accrual loans. Table 5.6 presents other delinquency statistics of mortgage loans.

Table 5.6 - Other Delinquency Statistics (dollars in thousands)

	June 30, 2023		
Amortized Cost:	Conventional MPP Loans	FHA Loans	Total
In process of foreclosure (1)	$ 5,774	$ 221	$ 5,995
Serious delinquency rate (2)	0.14 %	0.80 %	0.15 %
Past due 90 days or more still accruing interest (3)	$ 8,998	$ 844	$ 9,842
Loans on non-accrual status (4)	$ 1,282	$ —	$ 1,282

	December 31, 2022		
Amortized Cost:	Conventional MPP Loans	FHA Loans	Total
In process of foreclosure (1)	$ 7,206	$ 361	$ 7,567
Serious delinquency rate (2)	0.18 %	1.32 %	0.19 %
Past due 90 days or more still accruing interest (3)	$ 11,369	$ 1,500	$ 12,869
Loans on non-accrual status (4)	$ 1,423	$ —	$ 1,423

(1) Includes loans where the decision of foreclosure or a similar alternative such as pursuit of deed-in-lieu has been reported.

(2) Loans that are 90 days or more past due or in the process of foreclosure (including past due or current loans in the process of foreclosure) expressed as a percentage of the total loan portfolio class.

(3) Each conventional loan past due 90 days or more still accruing interest is on a schedule/scheduled monthly settlement basis and contains one or more credit enhancements. Loans that are well secured and in the process of collection as a result of remaining credit enhancements and schedule/scheduled settlement are not placed on non-accrual status.

(4) At June 30, 2023 and December 31, 2022, (in thousands) $986 and $971, respectively, of conventional MPP loans on non-accrual status do not have a related allowance because these loans were either previously charged off to their expected recoverable value and/or the fair value of the underlying collateral, including any credit enhancements, is greater than the amortized cost of the loans.

The FHLB did not have any real estate owned at June 30, 2023 or December 31, 2022.

Mortgage Loan Modifications. Under certain circumstances, the FHLB offers loan modifications within its MPP. Most commonly, loan modifications consist of capitalization of any past due interest with a corresponding increase in unpaid principal and a recast of the monthly principal and interest payment. Less frequently, loan modifications may include interest rate reductions, term extensions, balloon payments, or a combination of these types. The amortized cost basis of mortgage loans modified with borrowers experiencing financial difficulty during the three and six months ended June 30, 2023 was (in thousands) $1,543 and $2,878, respectively. The financial effect of the modifications was not material to the FHLB's financial condition or results of operations.

Evaluation of Current Expected Credit Losses

Mortgage Loans - FHA. The FHLB invests in fixed-rate mortgage loans secured by one-to-four-family residential properties insured by the FHA. The FHLB expects to recover any losses from such loans from the FHA. Any losses from these loans that are not recovered from the FHA would be caused by a claim rejection by the FHA and, as such, would be recoverable from the selling participating financial institutions. Therefore, the FHLB only has credit risk for these loans if the seller or servicer fails to pay for losses not covered by the FHA insurance, but in such instance, the FHLB would have recourse against the servicer for such failure. As a result, the FHLB did not record an allowance for credit losses on its FHA insured mortgage loans. Furthermore, due to the insurance, none of these mortgage loans have been placed on non-accrual status.

Mortgage Loans - Conventional MPP. Conventional loans are evaluated collectively when similar risk characteristics exist; loans that do not share risk characteristics with other pools are removed from the collective evaluation and evaluated for expected credit losses on an individual basis. For loans with similar risk characteristics, the FHLB determines the allowance for credit losses through analyses that include considering various loan portfolio and collateral-related characteristics, such as past performance, current conditions, and reasonable and supportable forecasts of expected economic conditions. The FHLB uses a model that employs a variety of methods, such as projected cash flows to estimate expected credit losses over the life of the loans. This model relies on a number of inputs, such as both current and forecasted property values and interest rates, as well as historical borrower behavior experience. The FHLB’s calculation of expected credit losses includes a forecast of home prices over the entire contractual terms of its conventional loans rather than a reversion to historical home price trends after an initial forecast period. The FHLB also incorporates associated credit enhancements to determine estimated expected credit losses.

Certain conventional loans may be evaluated for credit losses by using the practical expedient for collateral dependent assets. A mortgage loan is considered collateral dependent when the borrower is experiencing financial difficulty and repayment is expected to be substantially through the sale of the underlying collateral. The FHLB may estimate the fair value of this collateral by either applying an appropriate loss severity rate, using third-party estimates, or using a property valuation model. The expected credit loss of a collateral dependent mortgage loan is equal to the difference between the amortized cost of the loan and the estimated fair value of the collateral, less estimated selling costs. The FHLB will either reserve for these estimated losses or record a direct charge-off of the loan balance, if certain triggering criteria are met. Expected recoveries of prior charge-offs, if any, are included in the allowance for credit losses.

The FHLB also assesses other qualitative factors in its estimation of loan losses for the collectively evaluated population. This amount represents a subjective management judgment, based on facts and circumstances that exist as of the reporting date, which is intended to cover other expected losses that may not otherwise be captured in the methodology described above.

Allowance for Credit Losses on Conventional Mortgage Loans. At June 30, 2023 and December 31, 2022 the FHLB's allowance for credit losses on its conventional mortgage loans held for portfolio was (in thousands) $338 and $301, respectively.

Note 6 - Derivatives and Hedging Activities

Nature of Business Activity

The FHLB is exposed to interest rate risk primarily from the effect of changes in interest rates. The goal of the FHLB's interest-rate risk management strategy is not to eliminate interest-rate risk, but to manage it within appropriate limits. To mitigate the risk of loss, the FHLB has established policies and procedures, which include guidelines on the amount of exposure to interest rate changes it is willing to accept. In addition, the FHLB monitors the risk to its interest income, net interest margin and average maturity of interest-earning assets and interest-bearing liabilities. The FHLB uses derivatives when they are considered to be the most cost-effective alternative to achieve the FHLB's financial and risk management objectives. See Note 7 - Derivatives and Hedging Activities in the FHLB's 2022 Annual Report on Form 10-K for additional information on the FHLB's derivative transactions.

The FHLB transacts its derivatives with counterparties that are large banks and major broker-dealers. Some of these banks and broker-dealers or their affiliates buy, sell, and distribute Consolidated Obligations. Derivative transactions may be executed either with a counterparty, referred to as uncleared derivatives, or cleared through a Futures Commission Merchant (i.e., clearing agent) with a Derivative Clearing Organization, referred to as cleared derivatives. The FHLB is not a derivative dealer and does not trade derivatives for short-term profit.

Financial Statement Effect and Additional Financial Information

The notional amount of derivatives serves as a factor in determining periodic interest payments or cash flows received and paid. The notional amount reflects the FHLB's involvement in the various classes of financial instruments and represents neither the actual amounts exchanged nor the overall exposure of the FHLB to credit and market risk. The risks of derivatives only can be measured meaningfully on a portfolio basis that takes into account the counterparties, the types of derivatives, the items being hedged and any offsets between the derivatives and the items being hedged.

Table 6.1 summarizes the notional amount and fair value of derivative instruments and total derivative assets and liabilities. Total derivative assets and liabilities include the effect of netting adjustments and cash collateral. For purposes of this disclosure, the derivative values include the fair value of derivatives and the related accrued interest.

Table 6.1 - Fair Value of Derivative Instruments (in thousands)

	June 30, 2023		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as fair value hedging instruments:			
Interest rate swaps	$ 28,677,397	$ 10,375	$ 52,849
Derivatives not designated as hedging instruments:			
Interest rate swaps	36,291,236	114,688	36,080
Interest rate swaptions	425,000	4,391	—
Mortgage delivery commitments	65,176	37	152
Total derivatives not designated as hedging instruments	36,781,412	119,116	36,232
Total derivatives before adjustments	$ 65,458,809	129,491	89,081
Netting adjustments and cash collateral (1)		572,267	(88,929)
Total derivative assets and total derivative liabilities		$ 701,758	$ 152

	December 31, 2022		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as fair value hedging instruments:			
Interest rate swaps	$ 21,577,007	$ 37,175	$ 32,630
Derivatives not designated as hedging instruments:			
Interest rate swaps	28,840,270	5,839	55,327
Interest rate swaptions	355,000	7,766	—
Mortgage delivery commitments	14,291	12	88
Total derivatives not designated as hedging instruments	29,209,561	13,617	55,415
Total derivatives before adjustments	$ 50,786,568	50,792	88,045
Netting adjustments and cash collateral (1)		439,768	(87,585)
Total derivative assets and total derivative liabilities		$ 490,560	$ 460

(1) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions, and also cash collateral, including accrued interest, held or placed by the FHLB with the same clearing agent and/or counterparty. Cash collateral posted, including accrued interest, was (in thousands) $718,724 and $533,270 at June 30, 2023 and December 31, 2022, respectively. Cash collateral received, including accrued interest, was (in thousands) $57,528 and $5,917 at June 30, 2023 and December 31, 2022, respectively.

Table 6.2 presents the impact of qualifying fair value hedging relationships on net interest income as well as the total interest income (expense) by product.

Table 6.2 - Impact of Fair Value Hedging Relationships on Net Interest Income (in thousands)

	Three Months Ended June 30, 2023		
	Advances	Available-for-Sale Securities	Consolidated Bonds
Total interest income (expense) recorded in the Statements of Income	$ 1,439,257	$ 129,326	$ (1,086,138)
Impact of Fair Value Hedging Relationships			
Interest rate swaps:			
Net interest settlements	$ 84,234	$ 85,335	$ (8,064)
Gain (loss) on derivatives	255,292	208,035	(5,913)
Gain (loss) on hedged items	(259,956)	(217,129)	6,372
Effect on net interest income	$ 79,570	$ 76,241	$ (7,605)

	Three Months Ended June 30, 2022		
	Advances	Available-for-Sale Securities	Consolidated Bonds
Total interest income (expense) recorded in the Statements of Income	$ 120,653	$ 16,944	$ (119,330)
Impact of Fair Value Hedging Relationships			
Interest rate swaps:			
Net interest settlements	$ (12,694)	$ (10,392)	$ 2,289
Gain (loss) on derivatives	111,768	204,402	(11,999)
Gain (loss) on hedged items	(110,048)	(205,960)	12,046
Effect on net interest income	$ (10,974)	$ (11,950)	$ 2,336

	Six Months Ended June 30, 2023		
	Advances	Available-for-Sale Securities	Consolidated Bonds
Total interest income (expense) recorded in the Statements of Income	$ 2,335,866	$ 236,437	$ (1,728,134)
Impact of Fair Value Hedging Relationships			
Interest rate swaps:			
Net interest settlements	$ 141,883	$ 155,696	$ (15,923)
Gain (loss) on derivatives	93,061	(11,659)	6,140
Gain (loss) on hedged items	(102,117)	(7,857)	(5,580)
Effect on net interest income	$ 132,827	$ 136,180	$ (15,363)

	Six Months Ended June 30, 2022		
	Advances	Available-for-Sale Securities	Consolidated Bonds
Total interest income (expense) recorded in the Statements of Income	$ 165,971	$ 21,962	$ (194,405)
Impact of Fair Value Hedging Relationships			
Interest rate swaps:			
Net interest settlements	$ (34,389)	$ (23,926)	$ 2,705
Gain (loss) on derivatives	334,259	541,563	(22,778)
Gain (loss) on hedged items	(330,223)	(543,229)	22,740
Effect on net interest income	$ (30,353)	$ (25,592)	$ 2,667

Table 6.3 presents the cumulative basis adjustments on hedged items designated as fair value hedges and the related amortized cost of the hedged items.

Table 6.3 - Cumulative Basis Adjustments for Fair Value Hedges (in thousands)

	June 30, 2023		
	Advances	**Available-for-Sale Securities**	**Consolidated Bonds**
Amortized cost of hedged asset or liability [1]	$ 16,177,509	$ 9,704,490	$ 1,266,539
Fair value hedging adjustments			
Basis adjustments for active hedging relationships included in amortized cost	$ (509,074)	$ (996,983)	$ (36,165)
Basis adjustments for discontinued hedging relationships included in amortized cost	702	14,102	—
Total amount of fair value hedging basis adjustments	$ (508,372)	$ (982,881)	$ (36,165)

	December 31, 2022		
	Advances	**Available-for-Sale Securities**	**Consolidated Bonds**
Amortized cost of hedged asset or liability [1]	$ 10,199,624	$ 8,668,634	$ 1,286,881
Fair value hedging adjustments			
Basis adjustments for active hedging relationships included in amortized cost	$ (407,137)	$ (989,810)	$ (41,745)
Basis adjustments for discontinued hedging relationships included in amortized cost	882	13,932	—
Total amount of fair value hedging basis adjustments	$ (406,255)	$ (975,878)	$ (41,745)

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

Table 6.4 presents net gains (losses) recorded in non-interest income (loss) on derivatives not designated as hedging instruments.

Table 6.4 - Net Gains (Losses) Recorded in Non-interest Income (Loss) on Derivatives Not Designated as Hedging Instruments (in thousands)

	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022
Derivatives not designated as hedging instruments:		
Economic hedges:		
Interest rate swaps	$ 2,398	$ 16,596
Interest rate swaptions	(526)	5,470
Net interest settlements	(4,932)	(267)
Mortgage delivery commitments	(200)	(1,441)
Total net gains (losses) related to derivatives not designated as hedging instruments	(3,260)	20,358
Price alignment amount (1)	(1,103)	11
Net gains (losses) on derivatives	$ (4,363)	$ 20,369

	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Derivatives not designated as hedging instruments:		
Economic hedges:		
Interest rate swaps	$ 4,984	$ 149,642
Interest rate swaptions	(5,027)	6,558
Net interest settlements	(9,941)	(31,441)
Mortgage delivery commitments	(73)	(7,324)
Total net gains (losses) related to derivatives not designated as hedging instruments	(10,057)	117,435
Price alignment amount (1)	(2,222)	39
Net gains (losses) on derivatives	$ (12,279)	$ 117,474

(1) This amount is for derivatives for which variation margin is characterized as a daily settled contract.

Credit Risk on Derivatives

The FHLB is subject to credit risk given the risk of non-performance by counterparties to its derivative transactions and manages credit risk through credit analyses of derivative counterparties, collateral requirements and adherence to the requirements set forth in its policies, U.S. Commodity Futures Trading Commission regulations, and Finance Agency regulations.

For uncleared derivatives, the degree of credit risk depends on the extent to which master netting arrangements are included in these contracts to mitigate this risk. The FHLB requires collateral agreements on its uncleared derivatives with the collateral delivery threshold set to zero.

For cleared derivatives, the Clearinghouse is the FHLB's counterparty. The Clearinghouse notifies the clearing agent of the required initial and variation margin and the clearing agent in turn notifies the FHLB. The FHLB utilizes two Clearinghouses for all cleared derivative transactions, LCH Ltd. and CME Clearing. At both Clearinghouses, variation margin is characterized as daily settlement payments, while initial margin is considered to be collateral. The requirement that the FHLB post initial and variation margin through the clearing agent, to the Clearinghouse, exposes the FHLB to credit risk if the clearing agent or the Clearinghouse fails to meet its obligations. The use of cleared derivatives is intended to mitigate credit risk exposure because a central counterparty is substituted for individual counterparties and collateral/payments for changes in the value of cleared derivatives is posted daily through a clearing agent. On the Statements of Cash Flows, the variation margin cash payments, or daily settlement payments, are included in net change in derivative and hedging activities, as an operating activity.

For cleared derivatives, the Clearinghouse determines initial margin requirements and generally credit ratings are not factored into the initial margin. However, clearing agents may require additional initial margin to be posted based on credit considerations, including, but not limited to, credit rating downgrades. At June 30, 2023, the FHLB was not required to post additional initial margin by its clearing agents based on credit considerations.

Offsetting of Derivative Assets and Derivative Liabilities

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

The FHLB has analyzed the enforceability of offsetting rights incorporated in its cleared derivative transactions, and it expects that the exercise of those offsetting rights by a non-defaulting party under these transactions would be upheld under applicable law upon an event of default, including bankruptcy, insolvency, or similar proceeding involving the Clearinghouse or the FHLB's clearing agent, or both. Based on this analysis, the FHLB presents a net derivative receivable or payable for all of its transactions through a particular clearing agent with a particular Clearinghouse.

Table 6.5 presents separately the fair value of derivative instruments meeting or not meeting netting requirements, including the related collateral. At June 30, 2023 and December 31, 2022, the FHLB did not receive or pledge any non-cash collateral. Any over-collateralization under an individual clearing agent and/or counterparty level is not included in the determination of the net unsecured amount.

Table 6.5 - Offsetting of Derivative Assets and Derivative Liabilities (in thousands)

	June 30, 2023			
	Derivative Instruments Meeting Netting Requirements			
	Gross Recognized Amount	Gross Amount of Netting Adjustments and Cash Collateral	Derivative Instruments Not Meeting Netting Requirements [1]	Total Derivative Assets and Total Derivative Liabilities
Derivative Assets:				
Uncleared	$ 123,551	$ (107,449)	$ 37	$ 16,139
Cleared	5,903	679,716	—	685,619
Total				$ 701,758
Derivative Liabilities:				
Uncleared	$ 63,901	$ (63,901)	$ 152	$ 152
Cleared	25,028	(25,028)	—	—
Total				$ 152

	December 31, 2022			
	Derivative Instruments Meeting Netting Requirements			
	Gross Recognized Amount	Gross Amount of Netting Adjustments and Cash Collateral	Derivative Instruments Not Meeting Netting Requirements [1]	Total Derivative Assets and Total Derivative Liabilities
Derivative Assets:				
Uncleared	$ 19,195	$ (12,600)	$ 12	$ 6,607
Cleared	31,585	452,368	—	483,953
Total				$ 490,560
Derivative Liabilities:				
Uncleared	$ 83,896	$ (83,524)	$ 88	$ 460
Cleared	4,061	(4,061)	—	—
Total				$ 460

(1) Includes mortgage delivery commitments that are not subject to an enforceable netting agreement.

Note 7 - Consolidated Obligations

Table 7.1 - Consolidated Discount Notes Outstanding (dollars in thousands)

	Carrying Value	Principal Amount	Weighted Average Interest Rate [1]
June 30, 2023	$ 48,336,904	$ 48,847,370	4.89 %
December 31, 2022	$ 40,691,180	$ 41,007,526	3.95 %

(1) Represents an implied rate without consideration of concessions.

Table 7.2 - Consolidated Bonds Outstanding by Original Contractual Maturity (dollars in thousands)

	June 30, 2023		December 31, 2022	
Year of Original Contractual Maturity	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Due in 1 year or less	$ 77,660,580	4.98 %	$ 48,105,620	4.00 %
Due after 1 year through 2 years	7,211,000	4.13	3,056,405	2.97
Due after 2 years through 3 years	2,202,000	1.71	2,815,000	1.70
Due after 3 years through 4 years	1,168,500	2.07	934,000	1.97
Due after 4 years through 5 years	1,312,500	2.17	1,586,000	1.94
Thereafter	3,590,140	3.11	3,246,140	2.83
Total principal amount	93,144,720	4.69	59,743,165	3.69
Premiums	31,822		28,958	
Discounts	(21,169)		(18,716)	
Fair value hedging adjustments	(36,165)		(41,745)	
Fair value option valuation adjustment and accrued interest	93,317		(43,917)	
Total	$ 93,212,525		$ 59,667,745	

Table 7.3 - Consolidated Bonds Outstanding by Call Features (in thousands)

	June 30, 2023	December 31, 2022
Principal Amount of Consolidated Bonds:		
Non-callable	$ 70,032,720	$ 49,628,665
Callable	23,112,000	10,114,500
Total principal amount	$ 93,144,720	$ 59,743,165

Table 7.4 - Consolidated Bonds Outstanding by Original Contractual Maturity or Next Call Date (in thousands)

Year of Original Contractual Maturity or Next Call Date	June 30, 2023	December 31, 2022
Due in 1 year or less	$ 83,550,580	$ 54,465,620
Due after 1 year through 2 years	5,462,000	1,543,405
Due after 2 years through 3 years	886,000	803,000
Due after 3 years through 4 years	272,500	571,000
Due after 4 years through 5 years	412,500	258,000
Thereafter	2,561,140	2,102,140
Total principal amount	$ 93,144,720	$ 59,743,165

Consolidated Bonds, beyond having fixed-rate or variable-rate interest-rate payment terms, may also have a step-up interest-rate payment type. Step-up bonds pay interest at increasing fixed rates for specified intervals over the life of the Consolidated Bond. These Consolidated Bonds generally contain provisions enabling the FHLB to call the Consolidated Bonds at its option on the step-up dates.

Table 7.5 - Consolidated Bonds by Interest-rate Payment Type (in thousands)

	June 30, 2023	December 31, 2022
Principal Amount of Consolidated Bonds:		
Fixed-rate	$ 32,872,720	$ 19,797,165
Variable-rate	60,272,000	39,621,000
Step-up	—	325,000
Total principal amount	$ 93,144,720	$ 59,743,165

Note 8 - Affordable Housing Program (AHP)

The FHLBank Act requires each FHLBank to establish an AHP. Each FHLBank provides subsidies in the form of direct grants or below-market interest rates on Advances to members who provide the funds to assist in the purchase, construction, or rehabilitation of housing for very low-, low-, and moderate-income households. Each FHLBank recognizes AHP assessment expense equal to the greater of 10 percent of its annual income subject to assessment or the prorated sum required to ensure the aggregate contribution by the FHLBanks is no less than $100 million for each year. For purposes of the AHP calculation, income subject to assessment is defined as net income before AHP assessments, plus interest expense related to mandatorily redeemable capital stock. The FHLB accrues AHP expense monthly based on its income subject to assessment. The FHLB reduces the AHP liability as members use subsidies. In addition to the required AHP assessment, the Board of Directors may elect to make voluntary contributions to the AHP.

Table 8.1 - Rollforward of the AHP Liability (in thousands)

Balance at December 31, 2022	$ 87,923
Assessments (current year additions)	38,466
Voluntary contribution	7,307
Subsidy uses, net	(12,409)
Balance at June 30, 2023	$ 121,287

Note 9 - Capital

Table 9.1 - Capital Requirements (dollars in thousands)

	June 30, 2023		December 31, 2022	
	Minimum Requirement	Actual	Minimum Requirement	Actual
Risk-based capital	$ 1,223,534	$ 7,446,696	$ 920,030	$ 6,569,024
Capital-to-assets ratio (regulatory)	4.00 %	4.93 %	4.00 %	6.05 %
Regulatory capital	$ 6,045,176	$ 7,446,696	$ 4,344,380	$ 6,569,024
Leverage capital-to-assets ratio (regulatory)	5.00 %	7.39 %	5.00 %	9.07 %
Leverage capital	$ 7,556,470	$ 11,170,044	$ 5,430,475	$ 9,853,536

Restricted Retained Earnings. At June 30, 2023 and December 31, 2022 the FHLB had (in thousands) $629,111 and $560,118, respectively, in restricted retained earnings. These restricted retained earnings are not available to pay dividends but are available to absorb unexpected losses, if any, that the FHLB may experience.

Table 9.2 - Rollforward of Mandatorily Redeemable Capital Stock (in thousands)

Balance, December 31, 2022	$ 17,453
Capital stock subject to mandatory redemption reclassified from equity	313,383
Repurchase/redemption of mandatorily redeemable capital stock	(314,871)
Balance, June 30, 2023	$ 15,965

Table 9.3 - Mandatorily Redeemable Capital Stock by Contractual Year of Redemption (in thousands)

Contractual Year of Redemption	June 30, 2023	December 31, 2022
Year 1	$ —	$ 1,148
Year 2	9	29
Year 3	—	5
Year 4	8,297	5,853
Year 5	560	3,313
Past contractual redemption date due to remaining activity (1)	7,099	7,105
Total	$ 15,965	$ 17,453

(1) Represents mandatorily redeemable capital stock that is past the end of the contractual redemption period because there is activity outstanding to which the mandatorily redeemable capital stock relates.

Note 10 - Accumulated Other Comprehensive Income (Loss)

The following tables summarize the changes in accumulated other comprehensive income (loss) for the three and six months ended June 30, 2023 and 2022.

Table 10.1 - Accumulated Other Comprehensive Income (Loss) (in thousands)

	Net unrealized gains (losses) on available-for-sale securities	Pension and postretirement benefits	Total accumulated other comprehensive income (loss)
BALANCE, MARCH 31, 2022	$ (11,647)	$ (12,522)	$ (24,169)
Other comprehensive income before reclassification:			
Net unrealized gains (losses)	(9,988)	—	(9,988)
Reclassifications from other comprehensive income (loss) to net income:			
Amortization - pension and postretirement benefits (1)	—	509	509
Net current period other comprehensive income (loss)	(9,988)	509	(9,479)
BALANCE, JUNE 30, 2022	$ (21,635)	$ (12,013)	$ (33,648)
BALANCE, MARCH 31, 2023	$ (51,772)	$ (712)	$ (52,484)
Other comprehensive income before reclassification:			
Net unrealized gains (losses)	18,408	—	18,408
Reclassifications from other comprehensive income (loss) to net income:			
Amortization - pension and postretirement benefits (1)	—	(98)	(98)
Net current period other comprehensive income (loss)	18,408	(98)	18,310
BALANCE, JUNE 30, 2023	$ (33,364)	$ (810)	$ (34,174)

	Net unrealized gains (losses) on available-for-sale securities	Pension and postretirement benefits	Total accumulated other comprehensive income (loss)
BALANCE, DECEMBER 31, 2021	$ 26,125	$ (13,031)	$ 13,094
Other comprehensive income before reclassification:			
Net unrealized gains (losses)	(47,760)	—	(47,760)
Reclassifications from other comprehensive income (loss) to net income:			
Amortization - pension and postretirement benefits (1)	—	1,018	1,018
Net current period other comprehensive income (loss)	(47,760)	1,018	(46,742)
BALANCE, JUNE 30, 2022	$ (21,635)	$ (12,013)	$ (33,648)
BALANCE, DECEMBER 31, 2022	$ (48,726)	$ (614)	$ (49,340)
Other comprehensive income before reclassification:			
Net unrealized gains (losses)	15,362	—	15,362
Reclassifications from other comprehensive income (loss) to net income:			
Amortization - pension and postretirement benefits (1)	—	(196)	(196)
Net current period other comprehensive income (loss)	15,362	(196)	15,166
BALANCE, JUNE 30, 2023	$ (33,364)	$ (810)	$ (34,174)

(1) Included in Non-Interest Expense - Other in the Statements of Income.

Note 11 - Segment Information

The FHLB has identified two primary operating segments based on its method of internal reporting: Traditional Member Finance and the MPP. These segments reflect the FHLB's two primary Mission Asset Activities and the manner in which they are managed from the perspective of development, resource allocation, product delivery, pricing, credit risk and operational administration. The segments identify the principal ways the FHLB provides services to member stockholders.

Table 11.1 - Financial Performance by Operating Segment (in thousands)

	Three Months Ended June 30,		
	Traditional Member Finance	MPP	Total
2023			
Net interest income (loss)	$ 211,488	$ 35,152	$ 246,640
Non-interest income (loss)	37,645	(726)	36,919
Non-interest expense	37,070	4,659	41,729
Income (loss) before assessments	212,063	29,767	241,830
Affordable Housing Program assessments	21,304	2,977	24,281
Net income (loss)	$ 190,759	$ 26,790	$ 217,549
2022			
Net interest income (loss)	$ 59,827	$ 11,296	$ 71,123
Non-interest income (loss)	(2,534)	2,634	100
Non-interest expense	23,371	2,686	26,057
Income (loss) before assessments	33,922	11,244	45,166
Affordable Housing Program assessments	3,475	1,124	4,599
Net income (loss)	$ 30,447	$ 10,120	$ 40,567

	Six Months Ended June 30,		
	Traditional Member Finance	MPP	Total
2023			
Net interest income (loss)	$ 357,977	$ 68,864	$ 426,841
Non-interest income (loss)	31,641	(5,100)	26,541
Non-interest expense	62,519	7,436	69,955
Income (loss) before assessments	327,099	56,328	383,427
Affordable Housing Program assessments	32,833	5,633	38,466
Net income (loss)	$ 294,266	$ 50,695	$ 344,961
2022			
Net interest income (loss)	$ 137,202	$ 14,711	$ 151,913
Non-interest income (loss)	(34,646)	(2,447)	(37,093)
Non-interest expense	46,122	5,538	51,660
Income (loss) before assessments	56,434	6,726	63,160
Affordable Housing Program assessments	5,810	672	6,482
Net income (loss)	$ 50,624	$ 6,054	$ 56,678

Table 11.2 - Asset Balances by Operating Segment (in thousands)

	Assets		
	Traditional Member Finance	MPP	Total
June 30, 2023	$ 142,256,860	$ 8,872,537	$ 151,129,397
December 31, 2022	99,649,867	8,959,637	108,609,504

Note 12 - Fair Value Disclosures

The fair value amounts recorded on the Statements of Condition and presented in the related note disclosures have been determined by the FHLB using available market information and the FHLB's best judgment of appropriate valuation methods. GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., an exit price). The fair values reflect the FHLB's judgment of how a market participant would estimate the fair values.

Fair Value Hierarchy. GAAP establishes a fair value hierarchy and requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The inputs are evaluated and an overall level for the measurement is determined. This overall level is an indication of how market observable the fair value measurement is.

The fair value hierarchy prioritizes the inputs used to measure fair value into three broad levels:

Level 1 Inputs - Quoted prices (unadjusted) for identical assets or liabilities in an active market that the reporting entity can access on the measurement date. An active market for the asset or liability is a market in which the transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis.

Level 2 Inputs - Inputs other than quoted prices within Level 1 that are observable inputs for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include the following: (1) quoted prices for similar assets or liabilities in active markets; (2) quoted prices for identical or similar assets or liabilities in markets that are not active; (3) inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates and yield curves that are observable at commonly quoted intervals, and implied volatilities); and (4) inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3 Inputs - Unobservable inputs for the asset or liability, which are supported by limited to no market activity and reflect the FHLB's own assumptions.

The FHLB reviews the fair value hierarchy classifications on a quarterly basis. Changes in the observability of the valuation inputs may result in a reclassification of certain financial assets or liabilities. The FHLB did not have any transfers of assets or liabilities into or out of Level 3 of the fair value hierarchy during the six months ended June 30, 2023 or 2022.

Table 12.1 presents the carrying value, fair value, and fair value hierarchy of financial assets and liabilities of the FHLB. The FHLB records trading securities, available-for-sale securities, derivative assets, derivative liabilities, certain Advances and certain Consolidated Obligations at fair value on a recurring basis, and on occasion, certain mortgage loans held for portfolio on a nonrecurring basis. The FHLB records all other financial assets and liabilities at amortized cost. Refer to Table 12.2 for further details about the financial assets and liabilities held at fair value on either a recurring or nonrecurring basis.

Table 12.1 - Fair Value Summary (in thousands)

	June 30, 2023					
		Fair Value				
Financial Instruments	Carrying Value (1)	Total	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral (2)
Assets:						
Cash and due from banks	$ 20,274	$ 20,274	$ 20,274	$ —	$ —	$ —
Interest-bearing deposits	2,245,131	2,245,131	—	2,245,131	—	—
Securities purchased under agreements to resell	12,205,490	12,205,494	—	12,205,494	—	—
Federal funds sold	14,153,000	14,153,000	—	14,153,000	—	—
Trading securities	1,728,492	1,728,492	—	1,728,492	—	—
Available-for-sale securities	9,692,947	9,692,947	—	9,692,947	—	—
Held-to-maturity securities	15,833,684	15,516,658	—	15,516,658	—	—
Advances (3)	86,890,470	86,859,905	—	86,859,905	—	—
Mortgage loans held for portfolio	6,996,186	6,230,181	—	6,220,785	9,396	—
Accrued interest receivable	635,623	635,623	—	635,623	—	—
Derivative assets	701,758	701,758	—	129,491	—	572,267
Liabilities:						
Deposits	1,151,572	1,151,255	—	1,151,255	—	—
Consolidated Obligations:						
Discount Notes (4)	48,336,904	48,328,883	—	48,328,883	—	—
Bonds (5)	93,212,525	92,192,711	—	92,192,711	—	—
Mandatorily redeemable capital stock	15,965	15,965	15,965	—	—	—
Accrued interest payable	463,628	463,628	—	463,628	—	—
Derivative liabilities	152	152	—	89,081	—	(88,929)

(1) For certain financial instruments, the amounts represent net carrying value, which include an allowance for credit losses.

(2) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions and also cash collateral and related accrued interest held or placed by the FHLB with the same counterparty.

(3) Includes (in thousands) $103,313 of Advances recorded under the fair value option at June 30, 2023.

(4) Includes (in thousands) $15,143,932 of Consolidated Obligation Discount Notes recorded under the fair value option at June 30, 2023.

(5) Includes (in thousands) $19,291,817 of Consolidated Obligation Bonds recorded under the fair value option at June 30, 2023.

Financial Instruments	Carrying Value [1]	Fair Value: Total	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral [2]
	December 31, 2022					
Assets:						
Cash and due from banks	$ 19,604	$ 19,604	$ 19,604	$ —	$ —	$ —
Interest-bearing deposits	1,770,194	1,770,194	—	1,770,194	—	—
Securities purchased under agreements to resell	519,540	519,545	—	519,545	—	—
Federal funds sold	5,399,000	5,399,000	—	5,399,000	—	—
Trading securities	1,979,816	1,979,816	—	1,979,816	—	—
Available-for-sale securities	8,631,765	8,631,765	—	8,631,765	—	—
Held-to-maturity securities	15,304,359	14,983,043	—	14,983,043	—	—
Advances [3]	67,019,555	66,907,691	—	66,907,691	—	—
Mortgage loans held for portfolio	7,162,509	6,272,030	—	6,259,805	12,225	—
Accrued interest receivable	283,132	283,132	—	283,132	—	—
Derivative assets	490,560	490,560	—	50,792	—	439,768
Liabilities:						
Deposits	1,039,427	1,038,580	—	1,038,580	—	—
Consolidated Obligations:						
Discount Notes [4]	40,691,180	40,680,714	—	40,680,714	—	—
Bonds [5]	59,667,745	58,698,959	—	58,698,959	—	—
Mandatorily redeemable capital stock	17,453	17,453	17,453	—	—	—
Accrued interest payable	290,194	290,194	—	290,194	—	—
Derivative liabilities	460	460	—	88,045	—	(87,585)

(1) For certain financial instruments, the amounts represent net carrying value, which include an allowance for credit losses.

(2) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions and also cash collateral and related accrued interest held or placed by the FHLB with the same counterparty.

(3) Includes (in thousands) $4,954 of Advances recorded under the fair value option at December 31, 2022.

(4) Includes (in thousands) $21,010,746 of Consolidated Obligation Discount Notes recorded under the fair value option at December 31, 2022.

(5) Includes (in thousands) $5,469,583 of Consolidated Obligation Bonds recorded under the fair value option at December 31, 2022.

Summary of Valuation Methodologies and Primary Inputs.

The valuation methodologies and primary inputs used to develop the measurement of fair value for assets and liabilities that are measured at fair value on a recurring or nonrecurring basis in the Statement of Condition are disclosed in Note 15 - Fair Value Disclosures in the FHLB's 2022 Annual Report on Form 10-K. There have been no significant changes in the valuation methodologies during the six months ended June 30, 2023.

Fair Value Measurements.

Table 12.2 presents the fair value of financial assets and liabilities that are recorded on a recurring basis at June 30, 2023 and December 31, 2022, by level within the fair value hierarchy.

Table 12.2 - Fair Value Measurements (in thousands)

	Fair Value Measurements at June 30, 2023				
	Total	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustments and Cash Collateral (1)**
Recurring fair value measurements - Assets					
Trading securities:					
U.S. Treasury obligations	$ 244,612	$ —	$ 244,612	$ —	$ —
GSE obligations	1,483,801	—	1,483,801	—	—
U.S. obligation single-family MBS	79	—	79	—	—
Total trading securities	1,728,492	—	1,728,492	—	—
Available-for-sale securities:					
U.S. Treasury obligations	7,451,660	—	7,451,660	—	—
GSE obligations	117,837	—	117,837	—	—
GSE multi-family MBS	2,123,450	—	2,123,450	—	—
Total available-for-sale securities	9,692,947	—	9,692,947	—	—
Advances	103,313	—	103,313	—	—
Derivative assets:					
Interest rate related	701,721	—	129,454	—	572,267
Mortgage delivery commitments	37	—	37	—	—
Total derivative assets	701,758	—	129,491	—	572,267
Total assets at fair value	$ 12,226,510	$ —	$ 11,654,243	$ —	$ 572,267
Recurring fair value measurements - Liabilities					
Consolidated Obligations:					
Discount Notes	$ 15,143,932	$ —	$ 15,143,932	$ —	$ —
Bonds	19,291,817	—	19,291,817	—	—
Total Consolidated Obligations	34,435,749	—	34,435,749	—	—
Derivative liabilities:					
Interest rate related	—	—	88,929	—	(88,929)
Mortgage delivery commitments	152	—	152	—	—
Total derivative liabilities	152	—	89,081	—	(88,929)
Total liabilities at fair value	$ 34,435,901	$ —	$ 34,524,830	$ —	$ (88,929)

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

	Fair Value Measurements at December 31, 2022				
	Total	Level 1	Level 2	Level 3	Netting Adjustments and Cash Collateral (1)
Recurring fair value measurements - Assets					
Trading securities:					
U.S. Treasury obligations	$ 491,464	$ —	$ 491,464	$ —	$ —
GSE obligations	1,488,235	—	1,488,235	—	—
U.S. obligation single-family MBS	117	—	117	—	—
Total trading securities	1,979,816	—	1,979,816	—	—
Available-for-sale securities:					
U.S. Treasury obligations	7,194,271	—	7,194,271	—	—
GSE obligations	118,082	—	118,082	—	—
GSE multi-family MBS	1,319,412	—	1,319,412	—	—
Total available-for-sale securities	8,631,765	—	8,631,765	—	—
Advances	4,954	—	4,954	—	—
Derivative assets:					
Interest rate related	490,548	—	50,780	—	439,768
Mortgage delivery commitments	12	—	12	—	—
Total derivative assets	490,560	—	50,792	—	439,768
Total assets at fair value	$ 11,107,095	$ —	$ 10,667,327	$ —	$ 439,768
Recurring fair value measurements - Liabilities					
Consolidated Obligations:					
Discount Notes	$ 21,010,746	$ —	$ 21,010,746	$ —	$ —
Bonds	5,469,583	—	5,469,583	—	—
Total Consolidated Obligations	26,480,329	—	26,480,329	—	—
Derivative liabilities:					
Interest rate related	372	—	87,957	—	(87,585)
Mortgage delivery commitments	88	—	88	—	—
Total derivative liabilities	460	—	88,045	—	(87,585)
Total liabilities at fair value	$ 26,480,789	$ —	$ 26,568,374	$ —	$ (87,585)

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

Fair Value Option. The fair value option provides an irrevocable option to elect fair value as an alternative measurement for selected financial assets, financial liabilities, unrecognized firm commitments, and written loan commitments not previously carried at fair value. It requires a company to display the fair value of those assets and liabilities for which it has chosen to use fair value on the face of the Statements of Condition. Fair value is used for both the initial and subsequent measurement of the designated assets, liabilities and commitments, with the changes in fair value recognized in net income. If elected, interest income and interest expense on Advances and Consolidated Obligations carried at fair value are recognized based solely on the contractual amount of interest due or unpaid. Any transaction fees or costs are immediately recognized into other non-interest income or other non-interest expense.

The FHLB has elected the fair value option for certain financial instruments that either do not qualify for hedge accounting or may be at risk for not meeting hedge effectiveness requirements. These fair value elections were made primarily in an effort to mitigate the potential income statement volatility that can arise from economic hedging relationships in which the carrying value of the hedged item is not adjusted for changes in fair value.

Table 12.3 presents net gains (losses) recognized in earnings related to financial assets and liabilities in which the fair value option was elected during the three and six months ended June 30, 2023 and 2022.

Table 12.3 – Fair Value Option - Financial Assets and Liabilities (in thousands)

Net Gains (Losses) from Changes in Fair Value Recognized in Earnings	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Advances	$ (1,568)	$ (842)	$ (1,535)	$ (2,282)
Consolidated Discount Notes	16,214	29,094	(334)	38,294
Consolidated Bonds	45,789	32,501	27,492	43,419
Total net gains (losses)	$ 60,435	$ 60,753	$ 25,623	$ 79,431

For instruments recorded under the fair value option, the related contractual interest income, contractual interest expense and the discount amortization on Discount Notes are recorded as part of net interest income on the Statements of Income. The remaining changes in fair value for instruments in which the fair value option has been elected are recorded as "Net gains (losses) on financial instruments held under fair value option" in the Statements of Income, except for changes in fair value related to instrument specific credit risk, which are recorded in accumulated other comprehensive income (loss) in the Statement of Condition. The FHLB has determined that none of the remaining changes in fair value were related to instrument-specific credit risk for the six months ended June 30, 2023 or 2022. In determining that there has been no change in instrument-specific credit risk period to period, the FHLB primarily considered the following factors:

- The FHLB is a federally chartered GSE, and as a result of this status, the FHLB's Consolidated Obligations have historically received the same credit ratings as the government bond credit rating of the United States, even though they are not obligations of the United States and are not guaranteed by the United States.

- The FHLB is jointly and severally liable with the other 10 FHLBanks for the payment of principal and interest on all Consolidated Obligations of each of the other FHLBanks.

The following table reflects the difference between the aggregate unpaid principal balance outstanding and the aggregate fair value for Advances and Consolidated Obligations for which the fair value option has been elected.

Table 12.4 – Aggregate Unpaid Balance and Aggregate Fair Value (in thousands)

	June 30, 2023			December 31, 2022		
	Aggregate Unpaid Principal Balance	Aggregate Fair Value	Aggregate Fair Value Over/(Under) Aggregate Unpaid Principal Balance	Aggregate Unpaid Principal Balance	Aggregate Fair Value	Aggregate Fair Value Over/(Under) Aggregate Unpaid Principal Balance
Advances	$ 104,620	$ 103,313	$ (1,307)	$ 5,000	$ 4,954	$ (46)
Consolidated Discount Notes	15,281,352	15,143,932	(137,420)	21,182,801	21,010,746	(172,055)
Consolidated Bonds	19,198,500	19,291,817	93,317	5,513,500	5,469,583	(43,917)

Note 13 - Commitments and Contingencies

Off-Balance Sheet Commitments. Table 13.1 represents off-balance sheet commitments at June 30, 2023 and December 31, 2022. The FHLB has deemed it unnecessary to record any liabilities for credit losses on these commitments at June 30, 2023 and December 31, 2022.

Table 13.1 - Off-Balance Sheet Commitments (in thousands)

	June 30, 2023			December 31, 2022		
Notional Amount	**Expire within one year**	**Expire after one year**	**Total**	**Expire within one year**	**Expire after one year**	**Total**
Letters of Credit	$ 45,345,606	$ 392,604	$45,738,210	$ 41,122,833	$ 222,439	$41,345,272
Commitments for standby bond purchases	—	—	—	11,015	—	11,015
Commitments to purchase mortgage loans	65,176	—	65,176	14,291	—	14,291
Unsettled Consolidated Bonds, principal amount (1)	—	—	—	3,000,000	—	3,000,000
Unsettled Consolidated Discount Notes, principal amount (1)	—	—	—	182,205	—	182,205

(1) Expiration is based on settlement period rather than underlying contractual maturity of Consolidated Obligations.

The carrying value of guarantees related to Letters of Credit are recorded in other liabilities and were (in thousands) $9,038 and $9,691 at June 30, 2023 and December 31, 2022.

Legal Proceedings. From time to time, the FHLB is subject to legal proceedings arising in the normal course of business. The FHLB would record an accrual for a loss contingency when it is probable that a loss has been incurred and the amount could be reasonably estimated. After consultation with legal counsel, management does not anticipate that the ultimate liability and the range of reasonably possible losses, if any, arising out of any matters will have a material effect on the FHLB's financial condition or results of operations.

Note 14 - Transactions with Other FHLBanks

The FHLB notes transactions with other FHLBanks on the face of its financial statements. Occasionally, the FHLB loans short-term funds to and borrows short-term funds from other FHLBanks. These loans and borrowings are transacted at current market rates when traded. There were no such loans or borrowings outstanding at June 30, 2023 or December 31, 2022. The following table details the average daily balance of lending and borrowing between the FHLB and other FHLBanks for the six months ended June 30, 2023 and 2022.

Table 14.1 - Lending and Borrowing Between the FHLB and Other FHLBanks (in thousands)

	Average Daily Balances for the Six Months Ended June 30,	
	2023	**2022**
Loans to other FHLBanks	$ 34,530	$ 16,851

In addition, the FHLB may, from time to time, assume the outstanding primary liability for Consolidated Obligations of another FHLBank (at current market rates on the day when the transfer is traded) rather than issuing new debt for which the FHLB is the primary obligor. During the six months ended June 30, 2023, the par amount of the liability on Consolidated Obligations transferred to the FHLB totaled (in thousands) $250,000. The net discount associated with this transaction was immaterial. There were no Consolidated Obligations transferred to the FHLB during the six months ended June 30, 2022. The FHLB had no Consolidated Obligations transferred to other FHLBanks during these periods.

Note 15 - Transactions with Stockholders

As a cooperative, the FHLB's capital stock is owned by its members, by former members that retain the stock as provided in the FHLB's Capital Plan and by nonmember institutions that have acquired members and must retain the stock to support Advances or other capital-requiring activities with the FHLB. All Advances were issued to members and all mortgage loans held for portfolio were purchased from members during the six months ended June 30, 2023 and 2022. The FHLB also maintains demand deposit accounts for members, primarily to facilitate settlement activities that are directly related to Advances and mortgage loan purchases. Additionally, the FHLB may enter into interest rate swaps with its stockholders. The FHLB may not invest in any equity securities issued by its stockholders. At June 30, 2023 and December 31, 2022, the FHLB did not own any MBS securitized by, or other investment securities issued by, its stockholders.

For financial statement purposes, the FHLB defines related parties as those members with more than 10 percent of the voting interests of the FHLB capital stock outstanding. Federal statute prescribes the voting rights of members in the election of both Member and Independent directors. For Member directorships, the Finance Agency designates the number of Member directorships in a given year and an eligible voting member may vote only for candidates seeking election in its respective state. For Independent directors, the FHLB's Board of Directors nominates candidates to be placed on the ballot in an at-large election. For both Member and Independent director elections, a member is entitled to vote one share of required capital stock, subject to a statutory limitation, for each applicable directorship. Under this limitation, the total number of votes that a member may cast is limited to the average number of shares of the FHLB's capital stock that were required to be held by all members in that state as of the record date for voting. Nonmember stockholders are not eligible to vote in director elections. Given these statutory limitations, no member owned more than 10 percent of the voting interests of the FHLB at June 30, 2023 or December 31, 2022.

All transactions with stockholders are entered into in the ordinary course of business. Finance Agency regulations require the FHLB to offer the same pricing for Advances and other services to all members regardless of asset or transaction size, charter type, or geographic location. However, the FHLB may, in pricing its Advances, distinguish among members based upon its assessment of the credit and other risks to the FHLB of lending to any particular member or upon other reasonable criteria that may be applied equally to all members. The FHLB's policies and procedures require that such standards and criteria be applied consistently and without discrimination to all members applying for Advances and other services.

Transactions with Directors' Financial Institutions. In the ordinary course of its business, the FHLB provides products and services to members whose officers or directors serve as directors of the FHLB (Directors' Financial Institutions). Finance Agency regulations require that transactions with Directors' Financial Institutions be made on the same terms as those with any other member. The following table reflects balances with Directors' Financial Institutions for the items indicated below. The FHLB had no MBS or derivatives transactions with Directors' Financial Institutions at June 30, 2023 or December 31, 2022.

Table 15.1 - Transactions with Directors' Financial Institutions (dollars in millions)

	June 30, 2023		December 31, 2022	
	Balance	% of Total (1)	Balance	% of Total (1)
Advances	$ 3,185	3.6 %	$ 22,009	32.6 %
MPP	10	0.1	56	0.8
Regulatory capital stock	203	3.5	1,501	29.0

(1) Percentage of total principal (Advances), unpaid principal balance (MPP), and regulatory capital stock.

Concentrations. The following table shows regulatory capital stock balances, outstanding Advance principal balances, and unpaid principal balances of mortgage loans held for portfolio of stockholders holding five percent or more of regulatory capital stock and includes any known affiliates that are members of the FHLB.

Table 15.2 - Stockholders Holding Five Percent or more of Regulatory Capital Stock (dollars in millions)

	Regulatory Capital Stock		Advance	MPP Unpaid
June 30, 2023	Balance	% of Total	Principal	Principal Balance
U.S. Bank, N.A.	$ 1,454	25 %	$ 20,500	$ 7
Keybank, N.A.	813	14	15,339	—
The Huntington National Bank	403	7	6,501	344
Fifth Third Bank	339	6	5,301	—
First Horizon Bank	327	6	4,340	—

	Regulatory Capital Stock		Advance	MPP Unpaid
December 31, 2022	Balance	% of Total	Principal	Principal Balance
U.S. Bank, N.A.	$ 1,293	25 %	$ 19,000	$ 8
Keybank, N.A.	670	13	11,344	—
Fifth Third Bank	381	7	4,301	—
The Huntington National Bank	303	6	1,702	348

Nonmember Housing Associates. The FHLB has relationships with three nonmember housing associates, the Kentucky Housing Corporation, the Ohio Housing Finance Agency and the Tennessee Housing Development Agency. The FHLB had no investments in or borrowings to any of these nonmember housing associates at June 30, 2023 or December 31, 2022.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This report contains forward-looking statements that describe the objectives, expectations, estimates, and assessments of the Federal Home Loan Bank of Cincinnati (the FHLB). These statements use words such as “anticipates,” “expects,” “believes,” “could,” “estimates,” “may,” and “should.” By their nature, forward-looking statements relate to matters involving risks or uncertainties, some of which we may not be able to know, control, or completely manage. Actual future results could differ materially from those expressed or implied in forward-looking statements or could affect the extent to which we are able to realize an objective, expectation, estimate, or assessment. Some of the risks and uncertainties that could affect our forward-looking statements include the following:

- the effects of economic, financial, credit, market, and member conditions on our financial condition and results of operations, including changes in economic growth, general liquidity conditions, inflation and deflation, interest rates, interest rate spreads, interest rate volatility, mortgage originations, prepayment activity, housing prices, asset delinquencies, and members' mergers and consolidations, deposit flows, liquidity needs, and loan demand;

- political, national, or world events, including acts of war, civil unrest, terrorism, natural disasters, climate change, pandemics, or other catastrophic events, and legislative, regulatory, government, judicial or other developments that could affect us, our members, our counterparties, other Federal Home Loan Banks (FHLBanks) and other government-sponsored enterprises (GSEs), and/or investors in the Federal Home Loan Bank System's (FHLBank System) unsecured debt securities, which are called Consolidated Obligations or Obligations;

- competitive forces, including those related to other sources of funding available to members, to purchases of mortgage loans, and to our issuance of Consolidated Obligations;
- the financial results and actions of other FHLBanks that could affect our ability, in relation to the FHLBank System's joint and several liability for Consolidated Obligations, to access the capital markets on acceptable terms or preserve our profitability, or could alter the regulations and legislation to which we are subject;
- changes in ratings assigned to FHLBank System Obligations or the FHLB;
- changes in investor demand for Obligations;
- the volatility of market prices, interest rates, credit quality, and other indices that could affect the value of investments and collateral we hold as security for member obligations and/or for counterparty obligations;
- the ability to attract and retain skilled management and other key employees;
- the ability to develop, secure and support technology and information systems that help effectively manage the risks we face (including cybersecurity risks);
- the risk of loss arising from failures or interruptions in our ongoing business operations, internal controls, information systems or other operating technologies;
- the ability to successfully manage new products and services; and
- the risk of loss arising from litigation filed against us or one or more other FHLBanks.

We do not undertake any obligation to update any forward-looking statements made in this report.

EXECUTIVE OVERVIEW

Recent Developments

Business Environment

During the first six months of 2023, concerns about inflation, uncertainties regarding the U.S. government's debt ceiling, the health of the banking industry following significant deposit outflows experienced by several U.S. banks, and interest rate hikes by the Federal Reserve were dominant themes causing market stress and volatility. Throughout these challenges, we have continued to deliver on our dual mission of providing access to critical liquidity funding to member financial institutions and expanding support for affordable housing and community investment. Although some of the challenges experienced in the first half of 2023 subsided or were resolved by the end of the quarter, we continue to monitor the changing economic landscape and are committed to assisting members in meeting their funding needs.

In the first six months of 2023, we affirmed our commitment to affordable housing by approving voluntary housing contributions of $15 million given our strong earnings. These funds are in addition to the required AHP contributions and were allocated as follows:

- The Carol M. Peterson (CMP) Housing Fund received contributions of $7 million to provide grants to cover accessibility rehabilitation and emergency repairs for special needs and elderly homeowners within the Fifth District.
- The Disaster Reconstruction Program disbursed $0.6 million for the replacement or repair of homes damaged or destroyed by natural disasters within the Fifth District.
- The Welcome Home program will be funded with at least $4 million of voluntary housing contributions for use in 2023 to assist homebuyers with down payments and closing costs.
- Any remaining approved funds not used by the CMP Housing Fund and Welcome Home program will be allocated to the 2023 competitive program offering.

Our capital and liquidity positions continue to remain strong, as has our overall ability to fund operations through the issuance of Consolidated Obligations at acceptable interest costs. Additionally, overall residual credit risk exposure from our Credit Services, mortgage loan portfolio, investments, and derivative transactions has remained de minimis. Likewise, our market risk measures continue to be within our risk appetite.

Financial Condition

Mission Assets and Activities

Primary Mission Assets (i.e., principal balances of Advances and mortgage loans held for portfolio) and Supplemental Mission Activities (i.e., Letters of Credit, Mandatory Delivery Contracts and standby bond purchase agreements) are the principal business activities by which we fulfill our mission with direct connections to members and what we refer to as Mission Assets and Activities. We regularly monitor our concentration of Mission Assets and Activities. One measure we use to assess mission achievement is our Primary Mission Asset ratio, which measures the sum of average Advances and mortgage loans as a percentage of average Consolidated Obligations (adjusted for certain high-quality liquid assets, as permitted by regulation). In the first six months of 2023, the Primary Mission Asset ratio averaged 79 percent, above the Finance Agency's preferred ratio of 70 percent. In assessing overall mission achievement, we also consider supplemental sources of Mission Assets and Activities, the most significant of which is Letters of Credit issued for the benefit of members.

The following table summarizes our Mission Assets and Activities.

	Ending Balances			Average Balances		
	June 30,		December 31,	Six Months Ended June 30,		Year Ended December 31,
(In millions)	2023	2022	2022	2023	2022	2022
Primary Mission Assets (1):						
Advances	$ 87,402	$ 56,002	$ 67,428	$ 93,089	$ 38,678	$ 52,367
Mortgage loans held for portfolio	6,847	7,234	7,006	6,920	7,391	7,263
Total Primary Mission Assets	$ 94,249	$ 63,236	$ 74,434	$ 100,009	$ 46,069	$ 59,630
Supplemental Mission Activities (2):						
Letters of Credit (notional)	$ 45,738	$ 37,009	$ 41,345	$ 41,755	$ 35,238	$ 36,887
Mandatory Delivery Contracts (notional)	65	55	14	28	62	45
Standby bond purchase agreements (notional)	—	12	11	3	19	15
Total Supplemental Mission Activities	$ 45,803	$ 37,076	$ 41,370	$ 41,786	$ 35,319	$ 36,947

(1) Amounts represent principal balances.
(2) Amounts represent off-balance sheet commitments.

Advance principal balances increased $20.0 billion (30 percent) from year-end 2022. Additionally, average principal Advance balances for the six months ended June 30, 2023 increased $54.4 billion (141 percent) compared to the same period of 2022. Advances increased substantially over the course of 2022 and have remained elevated in the first six months of 2023 driven by depository members' demand for liquidity due to such factors as declining deposit balances, loan growth and the effects of higher interest rates. Member demand for Advances increased further, beginning in March 2023, in response to the turmoil in the banking industry and financial markets. A portion of these Advances matured or were prepaid near the end of the second quarter of 2023.

Advance balances are often volatile given our members' ability to quickly, normally on the same day, increase or decrease the amount of their Advances. We believe that a key benefit of membership comes from our business model as a wholesale lender GSE, which provides members flexibility in their Advance funding levels and helps support their asset-liability management needs. We act as a reliable source of funding for our members. Our business model is designed to support significant changes in asset levels without having to undergo material changes in staffing, operations, risk practices, or general resource needs. A key reason for this scalability is that our Capital Plan provides for additional capital when Advances grow and the opportunity for us to retire capital when Advances decline, thereby acting to preserve competitive profitability.

The MPP principal balance declined $0.2 billion (two percent) from the year-end 2022 balance. During the first six months of 2023, we purchased $0.1 billion of mortgage loans, while principal reductions were $0.3 billion. Principal reductions in the first six months of 2023 trended much lower than the reductions in 2022, due in large part to the elevated mortgage rate environment.

Letters of Credit increased $4.4 billion (11 percent) from year-end 2022. Letters of Credit balances are primarily used by members to secure public unit deposits. We normally earn fees on Letters of Credit based on the actual average amount of the Letters utilized, which generally is less than the notional amount issued.

Investments

The balance of investments at June 30, 2023 was $55.9 billion, an increase of $22.3 billion (66 percent) from year-end 2022. At June 30, 2023, investments included $17.9 billion of mortgage-backed securities (MBS) and $38.0 billion of other investments, which consisted primarily of short-term instruments and longer-term U.S. Treasury and GSE obligations held for liquidity. All of our MBS held at June 30, 2023 were issued and guaranteed by Fannie Mae, Freddie Mac or Ginnie Mae. The increase in investments was primarily driven by higher liquidity investments. We held more liquidity investments at the end of the second quarter of 2023 as a result of the increase in Advance demand, which was concentrated in short-term Advances and somewhat volatile. Additionally, the ending balance of liquidity investments was elevated at June 30, 2023, as a portion of these Advances matured or were prepaid near the end of the second quarter of 2023, and the related funds were temporarily invested in short-term liquidity instruments. Liquidity investments can vary significantly on a daily basis during times of volatility in Advance balances. We maintained a robust amount of asset liquidity throughout the first six months of 2023 across a variety of liquidity measures, as discussed in the "Liquidity Risk" section of "Quantitative and Qualitative Disclosures About Risk Management."

Investments averaged $44.1 billion in the first six months of 2023, an increase of $8.5 billion (24 percent) compared to the average during the same period of 2022, which was primarily driven by higher MBS. The average balances of MBS rose given our increased authority to purchase MBS, which was a result of the higher regulatory capital balance in support of Advance borrowings.

Capital

The GAAP and regulatory capital-to-assets ratios at June 30, 2023 were 4.89 percent and 4.93 percent, respectively. Both ratios exceeded the regulatory required minimum of four percent. Regulatory capital includes mandatorily redeemable capital stock accounted for as a liability under GAAP. Both GAAP and regulatory capital increased $0.9 billion from year-end 2022. The increase in capital was driven by purchases of capital stock to support Advance activity in the first six months of 2023. Retained earnings totaled $1.6 billion at June 30, 2023, an increase of 13 percent from year-end 2022. We believe the amount of retained earnings is sufficient to protect against members' impairment risk of their capital stock investment in the FHLB and to provide the opportunity to stabilize or increase future dividends.

Results of Operations

Overall Results

Our earnings over time reflect the combination of a stable business model and conservative management of risk. Key market driven factors that can cause significant periodic volatility in our profitability include changes in the level of interest rates, changes in spreads between benchmark interest rates and our short-term funding costs, recognition of net amortization from accelerated prepayments of mortgage assets, and fair value adjustments related to the use of derivatives and the associated hedged items. Our profitability may also be affected by our members' overall Advance demand, which is largely influenced by the monetary policies of the U.S. government and its agencies, including the Federal Reserve, and general economic conditions. The table below summarizes our results of operations.

	Three Months Ended June 30,		Six Months Ended June 30,		Year Ended December 31,
(Dollars in millions)	2023	2022	2023	2022	2022
Net income	$ 218	$ 41	$ 345	$ 57	$ 252
Affordable Housing Program assessments	24	4	38	6	29
Return on average equity (ROE)	10.71 %	3.38 %	9.53 %	2.48 %	4.78 %
Return on average assets	0.52	0.19	0.48	0.14	0.25
Weighted average dividend rate	7.25	3.00	6.62	2.56	4.31
Dividend payout ratio (1)	41.1	56.4	47.4	62.2	57.1
Average overnight interest rates (2)	4.98	0.74	4.74	0.42	1.67
ROE spread to average overnight interest rates	5.73	2.64	4.79	2.06	3.11
Dividend rate spread to average overnight interest rates	2.27	2.26	1.88	2.14	2.64

(1) Dividend payout ratio is dividends declared in the period as a percentage of net income.
(2) Average overnight interest rates consist of the Secured Overnight Financing Rate (SOFR) and the Federal funds effective rate.

Net income increased $177 million in the three-months comparison period and $288 million in the six-months comparison period. The increases in net income were primarily a result of significantly higher interest rates and average Advance balances. In particular, during the three and six months ended June 30, 2023, higher average interest rates increased the earnings generated from investing the FHLB's capital and contributed to improved spreads earned on mortgage loans held for portfolio. Average Advance balances were significantly higher in both comparison periods in part from depository members' greater demand for liquidity. Additionally, member demand increased further beginning in March 2023 given the turmoil experienced in the banking industry and financial markets. The increases in net income in the three- and six-months comparison periods were also driven by higher non-interest income as changes in net unrealized market values on interest rate swaps and related financial instruments carried at fair value improved earnings.

In the first six months of 2023, we accrued $38 million for the AHP, which will be available to members in 2024. In addition to the required AHP assessment, we may elect to make voluntary contributions to our AHP or other community investment programs. For example, we approved voluntary housing contributions of $15 million in the first six months of 2023.

In June 2023, we paid stockholders a quarterly dividend at a 7.25 percent annualized rate on their capital investment in our company, which is 2.27 percentage points above second quarter average overnight interest rates.

Effect of Interest Rate Environment

Trends in market interest rates and the resulting shapes of the market yield curves strongly influence our results of operations and profitability because of how they affect members' demand for Mission Assets and Activities, spreads on assets, funding costs and decisions in managing the tradeoffs in our market risk/return profile. The following table presents key market interest rates (obtained from Bloomberg L.P.).

	Quarter 2 2023		Quarter 1 2023		Six Months Ended June 30, 2023	Six Months Ended June 30, 2022	Year 2022	
	Ending	Average	Ending	Average	Average	Average	Ending	Average
Federal funds effective	5.08 %	4.99 %	4.83 %	4.51 %	4.75 %	0.45 %	4.33 %	1.69 %
SOFR	5.09	4.97	4.87	4.49	4.73	0.40	4.30	1.65
3-month London InterBank Offered Rate (LIBOR)	5.55	5.38	5.19	4.92	5.15	1.01	4.77	2.39
2-year LIBOR	5.10	4.53	4.36	4.65	4.59	2.33	4.71	3.27
10-year LIBOR	3.86	3.61	3.46	3.64	3.62	2.50	3.84	3.00
2-year U.S. Treasury	4.90	4.28	4.03	4.36	4.32	2.08	4.43	2.98
10-year U.S. Treasury	3.84	3.60	3.47	3.65	3.62	2.43	3.88	2.95
15-year mortgage current coupon (1)	5.25	4.84	4.53	4.54	4.69	2.84	4.71	3.60
30-year mortgage current coupon (1)	5.63	5.32	5.05	5.17	5.25	3.50	5.39	4.25

(1) Current coupon rate of Fannie Mae par MBS indications.

At June 30, 2023, the target overnight Federal funds rate was in the range of 5.00 to 5.25 percent, a significant increase from the range of 1.50 to 1.75 percent at June 30, 2022. In July 2023, the Federal Reserve increased the target overnight Federal funds rate by 0.25 percent to a range of 5.25 to 5.50 percent.

Average overnight rates were approximately 430 basis points higher in the first six months of 2023 compared to the same period of 2022, while average mortgage rates increased approximately 180 basis points. The increase in short-term rates improved our earnings from capital by $155 million in the first six months of 2023. Additionally, the substantial increase in average rates in the first six months of 2023 compared to the same period of 2022 benefited net income as it improved the spreads earned on our mortgage loans held for portfolio.

During the first six months of 2023 and throughout 2022, the market risk exposure to changing interest rates was moderate and within policy limits. We believe that longer-term profitability will be competitive, unless interest rates were to further increase significantly for a sustained period of time.

Regulatory and Legislative Developments

Significant regulatory and legislative actions and developments for the period covered by this Report not previously disclosed are summarized below.

Finance Agency's Review and Analysis of the FHLBank System

In the fall of 2022, and over a period of several months, the Finance Agency undertook a review and analysis of the FHLBank System, in part through a series of public listening sessions, regional roundtable discussions, and receipt of comments from stakeholders. This review covered such areas as the FHLBanks' mission and purpose in a changing marketplace; their organization, operational efficiency, and effectiveness; their role in promoting affordable, sustainable, equitable, and resilient housing and community investment; their role in addressing the unique needs of rural and financially vulnerable communities; member products, services, collateral requirements; and membership eligibility and requirements. The Finance Agency has stated that its review and analysis will culminate in a written report issued no later than September 30, 2023. The report is expected to (i) summarize the feedback received; (ii) identify actions the Finance Agency plans to take; and (iii) outline any recommendations for consideration by Congress.

LIBOR Transition Update

In accordance with the United Kingdom's Financial Conduct Authority's March 5, 2021 announcement, U.S. dollar representative LIBOR tenors were scheduled to no longer be supported or published immediately after June 30, 2023. As of June 30, 2023, none of our Advances or derivatives were indexed to U.S. dollar LIBOR. However, we had $3.2 billion of MBS at June 30, 2023 with remaining LIBOR reset periods ending after June 30, 2023. The U.S. dollar LIBOR index became static at June 30, 2023, and as a result we have no further variable-rate LIBOR exposure related to MBS after June 30, 2023. These MBS will convert to SOFR at the beginning of the next reset period. In addition, at June 30, 2023, all of our variable-rate Consolidated Obligations were linked to SOFR.

ANALYSIS OF FINANCIAL CONDITION

Credit Services

Credit Activity and Advance Composition

The table below shows trends in Advance balances by major programs and in the notional amount of Letters of Credit.

(Dollars in millions)	June 30, 2023		December 31, 2022	
	Balance	Percent(1)	Balance	Percent(1)
Adjustable/Variable-Rate Indexed:				
LIBOR	$ —	— %	$ 3,012	4 %
SOFR	21,042	24	10,170	15
Other	5,329	6	2,785	4
Total	26,371	30	15,967	23
Fixed-Rate:				
Repurchase based (REPO)	36,699	42	26,436	39
Regular Fixed-Rate	21,249	24	19,505	29
Putable (2)	725	1	1,020	2
Amortizing/Mortgage Matched	1,290	2	1,358	2
Other	1,066	1	3,142	5
Total	61,029	70	51,461	77
Other Advances	2	—	—	—
Total Advances Principal	$ 87,402	100 %	$ 67,428	100 %
Letters of Credit (notional) (3)	$ 45,738		$ 41,345	

(1) As a percentage of total Advances principal.
(2) Excludes Putable Advances where the related put options have expired or where the Advance is indexed to a variable-rate. These Advances are classified based on their current terms.
(3) Represents the amount of an off-balance sheet obligation.

Advance principal balances at June 30, 2023 increased 30 percent compared to year-end 2022. The increase in Advances resulted primarily from depository members' greater demand for liquidity in response to the turmoil experienced in the banking industry beginning in March 2023. Although Advance balances have increased, much of the demand has been for short-term Advances, a portion of which matured or were prepaid near the end of the second quarter of 2023. The future levels of Advance balances are difficult to predict and depend on many factors, including but not limited to, changes in the level of liquidity in the financial markets, changes in our members' deposit levels compared to loan growth and whether an economic downturn occurs.

Letters of Credit are issued on behalf of members to support certain obligations of members (or members' customers) to third-party beneficiaries. Letters of Credit increased $4.4 billion (11 percent) in the first six months of 2023 as members continue to primarily use them to secure higher levels of public unit deposits. Letters of Credit usually expire without being drawn upon.

The following tables present principal balances for the five members with the largest Advance borrowings.

(Dollars in millions)

June 30, 2023			December 31, 2022		
Name	Principal Amount of Advances	Percent of Total Principal Amount of Advances	Name	Principal Amount of Advances	Percent of Total Principal Amount of Advances
U.S. Bank, N.A.	$ 20,500	23 %	U.S. Bank, N.A.	$ 19,000	28 %
Keybank, N.A.	15,339	18	Keybank, N.A.	11,344	17
The Huntington National Bank	6,501	7	Third Federal Savings and Loan Association	4,826	7
Third Federal Savings and Loan Association	5,428	6	Fifth Third Bank	4,301	6
Fifth Third Bank	5,301	6	Nationwide Life Insurance Company	3,136	5
Total of Top 5	$ 53,069	60 %	Total of Top 5	$ 42,607	63 %

We believe that having large financial institutions that actively use our products augments the value of membership. For example, such activity improves our operating efficiency, increases our earnings and thereby contributions to housing and community investment programs. This activity may enable us to obtain more favorable funding costs and helps us maintain competitively priced products.

Mortgage Loans Held for Portfolio (Mortgage Purchase Program, or MPP)

MPP balances are influenced by conditions in the housing and mortgage markets, the competitiveness of prices we offer to purchase loans, as well as program features and activity from our largest sellers. We manage purchases and balances at a prudent level relative to capital and total assets to effectively manage market and credit risks consistent with our risk appetite.

The table below shows principal purchases and reductions of loans in the MPP for the first six months of 2023. All loans acquired in the first six months of 2023 were conventional loans.

(In millions)	MPP Principal
Balance, December 31, 2022	$ 7,006
Principal purchases	136
Principal reductions	(295)
Balance, June 30, 2023	$ 6,847

We closely track the refinancing incentives of our mortgage assets (including loans in the MPP and MBS) because the option for homeowners to change their principal payments normally represents the largest portion of our market risk exposure and can affect MPP balances. MPP principal paydowns decreased in the first six months of 2023 to a five percent annual constant prepayment rate, compared to the 11 percent rate during 2022, driven by the elevated mortgage rate environment that has persisted over the last several quarters. Likewise, elevated mortgage rates have substantially eliminated any borrower incentive to refinance and have slowed mortgage purchase originations, which in turn has continued the slow pace of our purchases of new MPP loans in the first six months of 2023.

Overall, MPP yields on new purchases and existing portfolio balances, relative to their market and credit risks, are expected to continue to generate a profitable long-term return.

Investments

The table below presents the ending and average balances of our investment portfolio.

(In millions)	Six Months Ended June 30, 2023		Year Ended December 31, 2022	
	Ending Balance	Average Balance	Ending Balance	Average Balance
Liquidity investments	$ 37,949	$ 26,177	$ 17,028	$ 24,608
MBS	17,910	17,234	16,577	13,678
Other investments [1]	—	667	—	444
Total investments	$ 55,859	$ 44,078	$ 33,605	$ 38,730

(1) The average balance includes the rights or obligations to cash collateral, which are included in the fair value of derivative assets or derivative liabilities on the Statements of Condition at period end.

Liquidity investments are either short-term (primarily overnight), or longer-term investments that may be sold and converted to cash. Under our regulatory requirements, liquidity includes certain high-quality liquid assets, which are defined as uncommitted U.S. Treasury obligations with remaining maturities of 10 years or less held as trading securities or available-for-sale securities. It is normal for liquidity investments to vary by up to several billion dollars on a daily basis. Liquidity investment levels can vary significantly based on changes in the amount of actual Advances, anticipated demand for Advances, regulatory liquidity requirements, the availability of acceptable net spreads, and the number of eligible counterparties that meet our unsecured credit risk criteria. The ending balance of liquidity investments at June 30, 2023 increased $20.9 billion (123 percent) compared to year-end 2022 primarily because of the increased level and volatility of Advance demand, especially short-term Advances. A portion of these Advances matured or were prepaid near the end of the second quarter of 2023, and the related funds were temporarily invested in short-term liquidity instruments.

Our overarching strategy for balances of MBS is to keep holdings as close as possible to the regulatory maximum. Finance Agency regulations prohibit us from purchasing MBS if our investment in these securities exceeds three times regulatory capital on the day we intend to purchase the securities. The ratio of MBS to regulatory capital was 2.44 at June 30, 2023. The MBS ratio was below our preference to hold it near the three times regulatory maximum primarily because of the rapid increase in regulatory capital, which was driven by members' purchases of capital stock to support Advance activity.

The balance of MBS at June 30, 2023 consisted of $16.7 billion of securities issued by Fannie Mae or Freddie Mac (of which $12.4 billion were floating-rate securities), and $1.2 billion of securities issued by Ginnie Mae (which are primarily fixed rate).

The table below shows principal purchases and paydowns of our MBS for the first six months of 2023.

(In millions)	MBS Principal
Balance at December 31, 2022	$ 16,798
Principal purchases	2,210
Principal paydowns	(884)
Balance at June 30, 2023	$ 18,124

As mortgage rates remained elevated in the first six months of 2023, MBS principal paydowns decreased to a 10 percent annual constant prepayment rate from the 12 percent rate experienced in all of 2022.

Consolidated Obligations

We generally fund variable-rate assets with Discount Notes (a portion of which may be swapped), adjustable-rate Bonds, and swapped fixed-rate Bonds because they give us the ability to effectively match the underlying rate reset periods embedded in these assets. The balances and composition of our Consolidated Obligations tend to fluctuate with changes in the balances and composition of our assets. In addition, changes in the amount and composition of our funding may be necessary from time to time to meet the days of positive liquidity and asset/liability maturity funding gap requirements discussed in the "Liquidity Risk" section of "Quantitative and Qualitative Disclosures About Risk Management."

The table below presents the ending and average balances of our participations in Consolidated Obligations.

(In millions)	Six Months Ended June 30, 2023		Year Ended December 31, 2022	
	Ending Balance	Average Balance	Ending Balance	Average Balance
Discount Notes:				
Unswapped	$ 33,566	$ 30,101	$ 19,825	$ 24,931
Swapped	15,281	26,578	21,183	21,692
Total par Discount Notes	48,847	56,679	41,008	46,623
Other items [1]	(510)	(606)	(317)	(173)
Total Discount Notes	48,337	56,073	40,691	46,450
Bonds:				
Unswapped fixed-rate	12,371	12,371	13,280	14,078
Unswapped adjustable-rate [2]	60,272	54,592	39,621	22,834
Swapped fixed-rate	20,501	11,939	6,842	7,062
Total par Bonds	93,144	78,902	59,743	43,974
Other items [1]	68	(20)	(75)	(34)
Total Bonds	93,212	78,882	59,668	43,940
Total Consolidated Obligations [3]	$ 141,549	$ 134,955	$ 100,359	$ 90,390

(1) Includes unamortized premiums/discounts, fair value option valuation adjustments, hedging and other basis adjustments.
(2) At June 30, 2023 and December 31, 2022, all unswapped adjustable-rate Bonds were indexed to SOFR.
(3) The 11 FHLBanks have joint and several liability for the par amount of all of the Consolidated Obligations issued on their behalves. The par amount of the outstanding Consolidated Obligations for all of the FHLBanks was (in millions) $1,340,166 and $1,181,743 at June 30, 2023 and December 31, 2022, respectively.

The balances of Discount Notes and unswapped adjustable-rate Bonds in the first six months of 2023 were higher compared to the balances at year-end 2022 primarily due to growth in short-term and variable-rate Advances and liquidity investments. The growth in Advances resulted primarily from depository members' greater demand for liquidity. Subsequently, a portion of these Advances matured or were prepaid near the end of the quarter and the related funds were temporarily invested in short-term liquidity instruments.

The ending and average balances of swapped fixed-rate Bonds at June 30, 2023 increased as the market environment during the first six months of 2023 generally favored swapped debt. We swap term Discount Notes and fixed-rate Bonds to adjustable-rates in order to effectively match the underlying rate reset periods to the assets the Discount Notes and Bonds are funding.

Deposits

Total deposits with us are normally a relatively minor source of funding. All deposits with us are uninsured. Total interest-bearing deposits at June 30, 2023 were $1.2 billion, an increase of $0.1 billion compared to the balance at year-end 2022.

Derivatives Hedging Activity and Liquidity

Our use of derivatives is discussed in the "Effect of the Use of Derivatives on Net Interest Income" and "Non-Interest Income (Loss)" sections in "Results of Operations." Liquidity is discussed in the "Liquidity Risk" section in “Quantitative and Qualitative Disclosures About Risk Management.”

Capital Resources

The following tables present capital amounts and capital-to-assets ratios, on both a GAAP and regulatory basis. We consider the regulatory ratio to be a better representation of financial leverage than the GAAP ratio because, although the GAAP ratio treats mandatorily redeemable capital stock as a liability, it protects investors in our debt in the same manner as GAAP capital stock and retained earnings.

(In millions)	Six Months Ended June 30, 2023		Year Ended December 31, 2022	
	Period End	Average	Period End	Average
GAAP and Regulatory Capital				
GAAP Capital Stock	$ 5,849	$ 5,849	$ 5,151	$ 3,961
Mandatorily Redeemable Capital Stock	16	34	17	115
Regulatory Capital Stock	5,865	5,883	5,168	4,076
Retained Earnings	1,582	1,496	1,401	1,339
Regulatory Capital	$ 7,447	$ 7,379	$ 6,569	$ 5,415

	Six Months Ended June 30, 2023		Year Ended December 31, 2022	
	Period End	Average	Period End	Average
GAAP and Regulatory Capital-to-Assets Ratio				
GAAP	4.89 %	5.02 %	5.99 %	5.33 %
Regulatory [1]	4.93	5.08	6.05	5.47

(1) At all times, the FHLB must maintain at least a four percent minimum regulatory capital-to-assets ratio.

Our business model is structured to be able to absorb sharp changes in assets because we can execute commensurate changes in liability and capital stock balances. For example, in the first six months of 2023, we issued $3.6 billion of capital stock to members primarily in support of Advance borrowings, while repurchasing $2.6 billion of excess capital stock no longer supporting Mission Assets and Activities.

Excess capital stock is the amount of stock held by a member (or former member) in excess of that institution's minimum stock ownership requirement. Excess capital stock provides a base of capital to manage financial leverage at prudent levels, augments loss protections for bondholders, and may be used by a member to capitalize additional Mission Assets and Activities, before purchasing activity stock. At June 30, 2023, the amount of excess stock, as defined by our Capital Plan, was $1.0 billion, a decrease of $0.2 billion compared to the balance at year-end 2022.

See the "Capital Adequacy" section in “Quantitative and Qualitative Disclosures About Risk Management” for discussion of our retained earnings.

RESULTS OF OPERATIONS

Components of Earnings and Return on Equity

The following table is a summary income statement for the three and six months ended June 30, 2023 and 2022. Each ROE percentage is computed by dividing income or expense for the category by the average amount of stockholders' equity for the period.

(Dollars in millions)	Three Months Ended June 30,				Six Months Ended June 30,			
	2023		2022		2023		2022	
	Amount	ROE [(1)]	Amount	ROE [(1)]	Amount	ROE [(1)]	Amount	ROE [(1)]
Net interest income	$ 247	12.14 %	$ 71	5.92 %	$ 427	11.80 %	$ 152	6.64 %
Non-interest income (loss):								
Net gains (losses) on investment securities	(27)	(1.31)	(88)	(7.31)	(1)	(0.04)	(248)	(10.85)
Net gains (losses) on derivatives	(4)	(0.21)	20	1.69	(12)	(0.34)	118	5.14
Net gains (losses) on financial instruments held under fair value option	60	2.97	61	5.06	25	0.71	79	3.48
Other non-interest income, net	8	0.37	7	0.57	14	0.40	14	0.61
Total non-interest income (loss)	37	1.82	—	0.01	26	0.73	(37)	(1.62)
Total income	284	13.96	71	5.93	453	12.53	115	5.02
Non-interest expense	42	2.05	26	2.17	70	1.94	52	2.26
Affordable Housing Program assessments	24	1.20	4	0.38	38	1.06	6	0.28
Net income	$ 218	10.71 %	$ 41	3.38 %	$ 345	9.53 %	$ 57	2.48 %

(1) The ROE amounts have been computed using dollars in thousands. Accordingly, recalculations based upon the disclosed amounts in millions may produce nominally different results.

Details on the individual factors contributing to the level and changes in profitability are explained in the sections below.

Net Interest Income

Components of Net Interest Income

The following table shows selected components of net interest income.

(Dollars in millions)	Three Months Ended June 30, 2023 Amount	2023 % of Earning Assets	2022 Amount	2022 % of Earning Assets	Six Months Ended June 30, 2023 Amount	2023 % of Earning Assets	2022 Amount	2022 % of Earning Assets
Components of net interest rate spread:								
Net (amortization)/accretion [1][2]	$ (6)	(0.01)%	$ (8)	(0.04)%	$ (12)	(0.02)%	$ (19)	(0.05)%
Prepayment fees on Advances, net [2]	2	—	—	—	2	—	3	0.01
Other components of net interest rate spread	146	0.36	64	0.30	260	0.37	146	0.36
Total net interest rate spread	142	0.35	56	0.26	250	0.35	130	0.32
Earnings from funding assets with interest-free capital	105	0.25	15	0.07	177	0.25	22	0.05
Total net interest income/net interest margin [3]	$ 247	0.60 %	$ 71	0.33 %	$ 427	0.60 %	$ 152	0.37 %

(1) Includes monthly recognition of premiums and discounts paid on purchases of mortgage assets, premiums, discounts and concessions paid on Consolidated Obligations and other hedging basis adjustments.
(2) This component of net interest rate spread has been segregated to display its relative impact.
(3) Net interest margin is net interest income as a percentage of average total interest-earning assets.

Net Amortization/Accretion (generally referred to as "amortization"): Net amortization can become substantial and volatile with changes in interest rates. When mortgage rates decrease, premium amortization of mortgage assets generally increases, which reduces net interest income. However, in the three and six months ended June 30, 2023, mortgage rates remained elevated, keeping mortgage refinance activity along with net amortization low.

Prepayment Fees on Advances: Fees for members' early repayment of certain Advances, which are included in net interest income, are designed to make us economically indifferent to whether members hold Advances to maturity or repay them before maturity. Advance prepayment fees were minimal in the three and six months ended June 30, 2023 and 2022.

Other Components of Net Interest Rate Spread: The total other components of net interest rate spread increased $82 million and $114 million in the three- and six-months comparison periods, respectively. The net increases were primarily due to the factors below.

Six-Months Comparison

- **Higher average Advance balances-*Favorable*:** The $54.1 billion increase in the average balance of Advances improved net interest income by an estimated $90 million.
- **Higher spreads earned on mortgage loans held for portfolio-*Favorable*:** Higher spreads on mortgage loans held for portfolio increased net interest income by an estimated $55 million. Spreads improved primarily because of the rise in interest rates.
- **Higher average balances of MBS-*Favorable*:** Increases of $5.4 billion in average MBS improved net interest income by an estimated $15 million.
- **Lower spreads on shorter-term and floating-rate assets-*Unfavorable*:** Lower spreads on shorter-term and floating-rate assets (including those that have been swapped to a floating rate) decreased net interest income by an estimated $45 million. However, the decrease in net interest income was partially offset by lower non-interest losses primarily because of a $21 million decline in the net interest settlements being paid on related derivatives not receiving hedge accounting.
- **Lower net unrealized gains on designated fair value hedges-*Unfavorable*:** Net unrealized gains on hedged items and derivatives in qualifying fair value hedge relationships were lower by $2 million.

Three-Months Comparison
The same factors generally affected the other components of net interest rate spread as in the six-months comparison and by approximately the same relative magnitude.

Earnings from Capital: Earnings from capital increased $90 million and $155 million in the three- and six-months comparison periods, respectively, because of the significantly higher average short-term interest rates and higher average capital balances.

Average Balance Sheet and Rates
The following tables provide average balances and rates for major balance sheet accounts, which determine the changes in net interest rate spreads. Interest amounts and average rates are affected by our use of derivatives and the related accounting elections we make. Interest amounts reported for Advances, MBS, Other investments and Swapped Bonds include gains (losses) on hedged items and derivatives in qualifying fair value hedge relationships.

In addition, the net interest settlements of interest receivables or payables associated with derivatives in a fair value hedge relationship are included in net interest income and interest rate spread. However, if the derivatives do not qualify for fair value hedge accounting, the related net interest settlements of interest receivables or payables are recorded in "Non-interest income (loss)" as "Net gains (losses) on derivatives" and therefore are excluded from the calculation of net interest rate spread. Amortization associated with some hedging-related basis adjustments is also reflected in net interest income, which affects interest rate spread.

(Dollars in millions)	Three Months Ended June 30, 2023			Three Months Ended June 30, 2022		
	Average Balance	Interest	Average Rate (1)	Average Balance	Interest	Average Rate (1)
Assets:						
Advances (2)	$ 108,835	$ 1,441	5.31 %	$ 43,796	$ 121	1.11 %
Mortgage loans held for portfolio (3)	7,028	52	2.97	7,492	51	2.72
Securities purchased under agreements to resell	4,722	59	5.04	1,405	2	0.69
Federal funds sold	14,929	188	5.06	10,409	20	0.77
Interest-bearing deposits in banks (4)	2,933	36	4.95	1,224	2	0.63
MBS (5)	17,708	218	4.94	12,545	37	1.18
Other investments (5)	9,525	119	5.01	10,536	44	1.67
Loans to other FHLBanks	28	1	4.98	33	—	1.34
Total interest-earning assets	165,708	2,114	5.12	87,440	277	1.27
Other assets	1,468			484		
Total assets	$ 167,176			$ 87,924		
Liabilities and Capital:						
Term deposits	$ 67	1	3.28	$ 90	—	0.50
Other interest bearing deposits (4)	1,057	12	4.43	1,408	2	0.47
Discount Notes	62,500	768	4.93	41,853	84	0.80
Unswapped fixed-rate Bonds	12,215	65	2.14	13,800	70	2.04
Unswapped adjustable-rate Bonds	63,644	811	5.11	18,736	32	0.70
Swapped Bonds	17,427	209	4.82	5,392	17	1.24
Mandatorily redeemable capital stock	52	1	7.54	50	1	6.69
Total interest-bearing liabilities	156,962	1,867	4.77	81,329	206	1.01
Other liabilities	2,064			1,777		
Total capital	8,150			4,818		
Total liabilities and capital	$ 167,176			$ 87,924		
Net interest rate spread			0.35 %			0.26 %
Net interest income and net interest margin (6)		$ 247	0.60 %		$ 71	0.33 %
Average interest-earning assets to interest-bearing liabilities			105.57 %			107.51 %

(1) Amounts used to calculate average rates are based on dollars in thousands. Accordingly, recalculations based upon the disclosed amounts in millions may not produce the same results.
(2) Interest on Advances includes prepayment fees of (in millions) $2 for the three months ended June 30, 2023. Advance prepayment fees for the three months ended June 30, 2022 totaled less than one million.
(3) Non-accrual loans are included in average balances used to determine average rate.
(4) The average balance amounts include the rights or obligations to cash collateral, which are included in the fair value of derivative assets or derivative liabilities on the Statements of Condition at period end.
(5) Includes available-for-sale securities based on their amortized costs. The yield information does not give effect to changes in fair value that are reflected as a component of stockholders' equity for available-for-sale securities.
(6) Net interest margin is net interest income as a percentage of average total interest-earning assets.

(Dollars in millions)	Six Months Ended June 30, 2023			Six Months Ended June 30, 2022		
	Average Balance	Interest	Average Rate [1]	Average Balance	Interest	Average Rate [1]
Assets:						
Advances [2]	$ 92,746	$ 2,338	5.08 %	$ 38,612	$ 169	0.88 %
Mortgage loans held for portfolio [3]	7,073	105	2.99	7,566	99	2.65
Securities purchased under agreements to resell	3,403	83	4.91	1,761	4	0.38
Federal funds sold	11,385	276	4.89	10,045	23	0.47
Interest-bearing deposits in banks [4]	2,598	61	4.74	981	2	0.43
MBS [5]	17,286	408	4.76	11,833	62	1.05
Other investments [5]	9,451	224	4.79	10,934	86	1.58
Loans to other FHLBanks	34	1	4.81	17	—	1.34
Total interest-earning assets	143,976	3,496	4.90	81,749	445	1.10
Other assets	1,267			445		
Total assets	$145,243			$ 82,194		
Liabilities and Capital:						
Term deposits	$ 74	1	3.21	$ 85	—	0.36
Other interest bearing deposits [4]	1,080	23	4.25	1,518	2	0.24
Discount Notes	56,073	1,316	4.73	39,350	95	0.48
Unswapped fixed-rate Bonds	12,386	132	2.15	14,730	140	1.92
Unswapped adjustable-rate Bonds	54,591	1,329	4.91	14,359	36	0.50
Swapped Bonds	11,905	267	4.52	5,867	18	0.62
Mandatorily redeemable capital stock	34	1	7.16	112	2	2.99
Total interest-bearing liabilities	136,143	3,069	4.55	76,021	293	0.78
Other liabilities	1,802			1,563		
Total capital	7,298			4,610		
Total liabilities and capital	$145,243			$ 82,194		
Net interest rate spread			0.35 %			0.32 %
Net interest income and net interest margin [6]		$ 427	0.60 %		$ 152	0.37 %
Average interest-earning assets to interest-bearing liabilities			105.75 %			107.53 %

(1) Amounts used to calculate average rates are based on dollars in thousands. Accordingly, recalculations based upon the disclosed amounts in millions may not produce the same results.
(2) Interest on Advances includes prepayment fees of (in millions) $2 and $3 for the six months ended June 30, 2023 and 2022, respectively.
(3) Non-accrual loans are included in average balances used to determine average rate.
(4) The average balance amounts include the rights or obligations to cash collateral, which are included in the fair value of derivative assets or derivative liabilities on the Statements of Condition at period end.
(5) Includes available-for-sale securities based on their amortized costs. The yield information does not give effect to changes in fair value that are reflected as a component of stockholders' equity for available-for-sale securities.
(6) Net interest margin is net interest income as a percentage of average total interest-earning assets.

Rates and corresponding levels of interest income and expense on all of our interest-bearing assets and liabilities increased in the three and six months ended June 30, 2023 compared to the same periods of 2022, as these assets and liabilities have repriced to the higher interest rates.

Volume/Rate Analysis

Changes in both average balances (volume) and interest rates influence changes in net interest income, as shown in the following table.

(In millions)	Three Months Ended June 30, 2023 over 2022			Six Months Ended June 30, 2023 over 2022		
	Volume (1)(3)	Rate (2)(3)	Total	Volume (1)(3)	Rate (2)(3)	Total
Increase (decrease) in interest income						
Advances	$ 371	$ 949	$ 1,320	$ 494	$ 1,675	$ 2,169
Mortgage loans held for portfolio	(3)	4	1	(6)	12	6
Securities purchased under agreements to resell	16	41	57	5	74	79
Federal funds sold	12	156	168	4	249	253
Interest-bearing deposits in banks	6	28	34	8	51	59
MBS	20	161	181	40	306	346
Other investments	(5)	80	75	(14)	152	138
Loans to other FHLBanks	—	1	1	—	1	1
Total	417	1,420	1,837	531	2,520	3,051
Increase (decrease) in interest expense						
Term deposits	—	1	1	—	1	1
Other interest-bearing deposits	(1)	11	10	(1)	22	21
Discount Notes	60	624	684	56	1,165	1,221
Unswapped fixed-rate Bonds	(8)	3	(5)	(23)	15	(8)
Unswapped adjustable-rate Bonds	214	565	779	314	979	1,293
Swapped Bonds	83	109	192	35	214	249
Mandatorily redeemable capital stock	—	—	—	(2)	1	(1)
Total	348	1,313	1,661	379	2,397	2,776
Increase (decrease) in net interest income	$ 69	$ 107	$ 176	$ 152	$ 123	$ 275

(1) Volume changes are calculated as the change in volume multiplied by the prior year rate.
(2) Rate changes are calculated as the change in rate multiplied by the prior year average balance.
(3) Changes that are not identifiable as either volume-related or rate-related, but rather are equally attributable to both volume and rate changes, have been allocated to the volume and rate categories based upon the proportion of the absolute value of the volume and rate changes.

Effect of the Use of Derivatives on Net Interest Income

The following table shows the impact on net interest income from the effect of derivatives and hedging activities. As noted above, gains (losses) on hedged items and derivatives in qualifying fair value hedge relationships are recorded in interest income or expense. In addition, for derivatives designated as a fair value hedge, the net interest settlements of interest receivables or payables related to such derivatives are recognized as adjustments to the interest income or expense of the designated hedged item. As such, all the effects on earnings of derivatives qualifying for fair value hedge accounting are reflected in net interest income. The effect on earnings from derivatives not receiving fair value hedge accounting is provided in the "Non-Interest Income (Loss)" section below.

(In millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Advances:				
Gains (losses) on designated fair value hedges	$ —	$ 2	$ —	$ 5
Net interest settlements included in net interest income	84	(13)	142	(35)
Price alignment amount (1)	(4)	—	(9)	(1)
Investment securities:				
Amortization of hedging activities in net interest income	—	—	(1)	—
Gains (losses) on designated fair value hedges	2	—	3	—
Net interest settlements included in net interest income	85	(10)	156	(24)
Price alignment amount (1)	(11)	(1)	(22)	(1)
Mortgage loans:				
Amortization of derivative fair value adjustments in net interest income	—	(1)	—	(2)
Consolidated Obligation Bonds:				
Net interest settlements included in net interest income	(8)	2	(16)	3
Increase (decrease) to net interest income	$ 148	$ (21)	$ 253	$ (55)

(1) This amount is for derivatives for which variation margin is characterized as a daily settled contract.

Most of our use of derivatives is to synthetically convert the fixed interest rates on certain Advances, investments and Consolidated Obligations to adjustable rates tied to an eligible benchmark rate (e.g., the Federal funds effective rate or SOFR). The sharp increases in short-term interest rates primarily benefited net interest income in both the three and six months ended June 30, 2023 as the conversion of certain Advances' and investments' fixed interest rates to adjustable-coupon rates resulted in net interest settlements being received rather than paid. The fluctuation in net interest income from the use of derivatives was acceptable because it enabled us to lower market risk exposure by matching actual cash flows between assets and liabilities more closely and efficiently than would otherwise occur.

Non-Interest Income (Loss)

Non-interest income (loss) consists of certain gains (losses) on investment securities, derivatives activities, financial instruments held under the fair value option, and other non-interest earning activities. The following tables present the net effect of derivatives and hedging activities on non-interest income (loss). The effects of derivatives and hedging activities on non-interest income (loss) relate only to derivatives not qualifying for fair value hedge accounting.

(In millions)	Advances	Investment Securities	Mortgage Loans	Bonds	Discount Notes	Balance Sheet [1]	Other	Total
Three Months Ended June 30, 2023								
Net effect of derivatives and hedging activities								
Gains (losses) on derivatives not receiving hedge accounting	$ 3	$ 31	$ (1)	$ (22)	$ (9)	$ —	$ —	$ 2
Net interest settlements on derivatives not receiving hedge accounting	—	13	—	(7)	(11)	—	—	(5)
Price alignment amount [2]	—	—	—	—	—	—	(1)	(1)
Net gains (losses) on derivatives	3	44	(1)	(29)	(20)	—	(1)	(4)
Gains (losses) on trading securities [3]	—	(27)	—	—	—	—	—	(27)
Gains (losses) on financial instruments held under fair value option [4]	(2)	—	—	46	16	—	—	60
Total net effect on non-interest income	$ 1	$ 17	$ (1)	$ 17	$ (4)	$ —	$ (1)	$ 29
Three Months Ended June 30, 2022								
Net effect of derivatives and hedging activities								
Gains (losses) on derivatives not receiving hedge accounting	$ 1	$ 78	$ (1)	$ (30)	$ (33)	$ 5	$ —	$ 20
Net interest settlements on derivatives not receiving hedge accounting	—	(17)	—	7	10	—	—	—
Price alignment amount [2]	—	—	—	—	—	—	—	—
Net gains (losses) on derivatives	1	61	(1)	(23)	(23)	5	—	20
Gains (losses) on trading securities [3]	—	(88)	—	—	—	—	—	(88)
Gains (losses) on financial instruments held under fair value option [4]	(1)	—	—	33	29	—	—	61
Total net effect on non-interest income	$ —	$ (27)	$ (1)	$ 10	$ 6	$ 5	$ —	$ (7)

(In millions)	Advances	Investment Securities	Mortgage Loans	Bonds	Discount Notes	Balance Sheet [1]	Other	Total
Six Months Ended June 30, 2023								
Net effect of derivatives and hedging activities								
Gains (losses) on derivatives not receiving hedge accounting	$ 3	$ (4)	$ (5)	$ (1)	$ 7	$ —	$ —	$ —
Net interest settlements on derivatives not receiving hedge accounting	—	24	—	(19)	(15)	—	—	(10)
Price alignment amount [2]	—	—	—	—	—	—	(2)	(2)
Net gains (losses) on derivatives	3	20	(5)	(20)	(8)	—	(2)	(12)
Gains (losses) on trading securities [3]	—	(1)	—	—	—	—	—	(1)
Gains (losses) on financial instruments held under fair value option [4]	(2)	—	—	27	—	—	—	25
Total net effect on non-interest income	$ 1	$ 19	$ (5)	$ 7	$ (8)	$ —	$ (2)	$ 12
Six Months Ended June 30, 2022								
Net effect of derivatives and hedging activities								
Gains (losses) on derivatives not receiving hedge accounting	$ 2	$ 224	$ (7)	$ (35)	$ (42)	$ 7	$ —	$ 149
Net interest settlements on derivatives not receiving hedge accounting	—	(49)	—	7	11	—	—	(31)
Price alignment amount [2]	—	—	—	—	—	—	—	—
Net gains (losses) on derivatives	2	175	(7)	(28)	(31)	7	—	118
Gains (losses) on trading securities [3]	—	(248)	—	—	—	—	—	(248)
Gains (losses) on financial instruments held under fair value option [4]	(2)	—	—	43	38	—	—	79
Total net effect on non-interest income	$ —	$ (73)	$ (7)	$ 15	$ 7	$ 7	$ —	$ (51)

(1) For the three and six months ended June 30, 2022, balance sheet includes swaptions, which are not designated as hedging a specific financial instrument.
(2) This amount is for derivatives for which variation margin is characterized as a daily settled contract.
(3) Includes only those gains (losses) on trading securities that have an assigned economic derivative; therefore, this line item may not agree to the Statement of Income.
(4) Includes only those gains or losses on financial instruments held at fair value that have an economic derivative "assigned."

The effect of derivatives and hedging activities on non-interest income in the three and six months ended June 30, 2023 improved primarily because of the increase in short-term rates, which resulted in net interest settlements being received on derivatives related to investments where the fixed interest rates were converted to adjustable-coupon rates. Some of this benefit was partially offset as the increase in short-term rates also resulted in net interest settlements being paid rather than received on derivatives related to Bonds and Discount Notes. Additionally, a portion of the improvement in the effect of derivatives and hedging activities on earnings in both comparison periods was driven by net unrealized gains on certain derivatives and related financial instruments carried at fair value. Because we intend to hold these derivatives and the related financial instruments to maturity, any unrealized gains or losses are expected to reverse in future periods. As noted above, the fluctuation in earnings from the use of derivatives was acceptable because it enabled us to lower market risk exposure.

In the table above, "Gains (losses) on trading securities" consist of fixed-rate U.S. Treasury and GSE obligations that have been swapped to a variable rate. Trading securities are recorded at fair value, with changes in fair value reported in non-interest income (loss). There are a number of factors that affect the fair value of these securities, such as changes in interest rates, the passage of time, and volatility. By hedging these trading securities, the gains or losses on these trading securities will generally be offset by the gains or losses on the associated interest rate swaps.

Non-Interest Expense

The following table presents non-interest expense.

	Three Months Ended June 30,		Six Months Ended June 30,	
(In millions)	2023	2022	2023	2022
Non-interest expense				
Compensation and benefits	$ 13	$ 13	$ 28	$ 27
Other operating expense	8	6	15	12
Finance Agency	3	2	5	4
Office of Finance	2	1	3	3
Voluntary housing contributions	15	1	15	2
Other	1	3	4	4
Total non-interest expense	$ 42	$ 26	$ 70	$ 52

Our business is designed to support significant changes in asset levels without having to undergo material changes in staffing, operations, risk practices, or general resource needs. Total non-interest expense increased in the 2023 periods as a result of making voluntary housing contributions of $15 million to address the needs related to affordable housing and community investment in the Fifth District. All other components of non-interest expense generally remained stable in the periods shown.

Segment Information

Note 11 of the Notes to Unaudited Financial Statements presents information on our two operating business segments. We manage financial operations and market risk exposure primarily at the macro level, and within the context of the entire balance sheet, rather than exclusively at the level of individual segments. Under this approach, the market risk/return profile of each segment may not match, or possibly even have the same trends as, what would occur if we managed each segment on a stand-alone basis. The tables below summarize each segment's operating results for the periods shown.

(Dollars in millions)	Traditional Member Finance	MPP	Total
Three Months Ended June 30, 2023			
Net interest income (loss)	$ 212	$ 35	$ 247
Net income (loss)	$ 191	$ 27	$ 218
Average assets	$ 158,374	$ 8,802	$ 167,176
Assumed average capital allocation	$ 7,721	$ 429	$ 8,150
Return on average assets [(1)]	0.48 %	1.22 %	0.52 %
Return on average equity [(1)]	9.91 %	25.07 %	10.71 %
Three Months Ended June 30, 2022			
Net interest income (loss)	$ 60	$ 11	$ 71
Net income (loss)	$ 31	$ 10	$ 41
Average assets	$ 77,949	$ 9,975	$ 87,924
Assumed average capital allocation	$ 4,271	$ 547	$ 4,818
Return on average assets [(1)]	0.16 %	0.41 %	0.19 %
Return on average equity [(1)]	2.86 %	7.43 %	3.38 %

(Dollars in millions)	Traditional Member Finance	MPP	Total
Six Months Ended June 30, 2023			
Net interest income (loss)	$ 358	$ 69	$ 427
Net income (loss)	$ 294	$ 51	$ 345
Average assets	$ 136,391	$ 8,852	$ 145,243
Assumed average capital allocation	$ 6,851	$ 447	$ 7,298
Return on average assets [(1)]	0.44 %	1.15 %	0.48 %
Return on average equity [(1)]	8.66 %	22.87 %	9.53 %
Six Months Ended June 30, 2022			
Net interest income (loss)	$ 137	$ 15	$ 152
Net income (loss)	$ 51	$ 6	$ 57
Average assets	$ 72,023	$ 10,171	$ 82,194
Assumed average capital allocation	$ 4,038	$ 572	$ 4,610
Return on average assets [(1)]	0.14 %	0.12 %	0.14 %
Return on average equity [(1)]	2.53 %	2.14 %	2.48 %

(1) Amounts used to calculate returns are based on numbers in thousands. Accordingly, recalculations based upon the disclosed amounts in millions may not produce the same results.

Traditional Member Finance Segment

Net income improved in the three- and six-months comparison periods largely because of the rising interest rate environment, which benefited this segment as it resulted in higher earnings from capital. Additionally, net income improved because of higher average balances of Advances and MBS. However, the increase in profitability was partially offset by lower spreads earned on shorter-term and floating-rate assets (including those that have been swapped to a floating rate). The increases in net income in the three- and six-months comparison periods were also driven by unrealized gains on interest rate swaps and related financial instruments carried at fair value.

MPP Segment

Earnings from the MPP segment improved in the three and six months ended June 30, 2023 compared to the same periods of 2022 because of higher net interest income, which resulted primarily from the increase in interest rates. The MPP segment benefited from higher average interest rates, which improved the spreads earned and increased the earnings generated from capital. Additionally, higher mortgage rates resulted in a lower volume of mortgage refinance activity, which reduced premium amortization.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT RISK MANAGEMENT

Market Risk

Market Value of Equity and Duration of Equity - Entire Balance Sheet

Two key measures of long-term market risk exposure are the sensitivities of the market value of equity and the duration of equity to changes in interest rates and other variables, as presented in the following tables for various instantaneous and permanent interest rate shocks (in basis points). Market value of equity represents the difference between the market value of total assets and the market value of total liabilities, including off-balance sheet items. The duration of equity provides an estimate of the change in market value of equity to further changes in interest rates. We compiled average results using data for each month end. Given the level of rates at certain time periods, some down rate shocks are nonparallel scenarios, with short-term rates decreasing less than long-term rates such that no rate falls below zero.

Market Value of Equity

(Dollars in millions)	Down 300	Down 200	Down 100	Flat Rates	Up 100	Up 200	Up 300
Average Results							
2023 Year-to-Date							
Market Value of Equity	$ 7,488	$ 7,301	$ 7,199	$ 7,084	$ 6,962	$ 6,844	$ 6,737
% Change from Flat Case	5.7 %	3.1 %	1.6 %	—	(1.7)%	(3.4)%	(4.9)%
2022 Full Year							
Market Value of Equity	$ 5,643	$ 5,498	$ 5,408	$ 5,317	$ 5,207	$ 5,101	$ 5,012
% Change from Flat Case	6.1 %	3.4 %	1.7 %	—	(2.1)%	(4.1)%	(5.7)%
Month-End Results							
June 30, 2023							
Market Value of Equity	$ 7,418	$ 7,347	$ 7,249	$ 7,144	$ 7,026	$ 6,912	$ 6,810
% Change from Flat Case	3.8 %	2.8 %	1.5 %	—	(1.7)%	(3.2)%	(4.7)%
December 31, 2022							
Market Value of Equity	$ 6,517	$ 6,402	$ 6,283	$ 6,160	$ 6,042	$ 5,937	$ 5,844
% Change from Flat Case	5.8 %	3.9 %	2.0 %	—	(1.9)%	(3.6)%	(5.1)%

Duration of Equity

(In years)	Down 300	Down 200	Down 100	Flat Rates	Up 100	Up 200	Up 300
Average Results							
2023 Year-to-Date	2.5	1.4	1.7	1.8	1.9	1.7	1.6
2022 Full Year	2.6	1.9	1.5	2.0	2.2	2.0	1.7
Month-End Results							
June 30, 2023	1.0	1.4	1.7	1.7	1.7	1.5	1.3
December 31, 2022	1.8	2.0	2.1	2.1	2.0	1.8	1.6

The mortgage assets portfolio normally accounts for almost all market risk exposure because of prepayment volatility that we cannot completely hedge while maintaining sufficient net spreads. The overall market risk exposure to changing interest rates was well within policy limits during the periods presented. At June 30, 2023, market risk exposure to falling and rising rate shocks remained stable.

Based on the totality of our risk analysis, we expect that overall profitability, defined as the level of ROE compared with short-term market rates, will be competitive over the long term unless interest rates increase further by large amounts in a short period of time. Substantial declines in long-term interest rates could decrease income temporarily before reverting to average levels. This temporary reduction in income would be driven by additional recognition of mortgage asset premiums as the incentive for borrowers to refinance results in faster than anticipated repayments of those mortgage assets. However, we believe the mortgage assets portfolio will continue to provide an acceptable risk-adjusted return consistent with our risk appetite philosophy.

Capital Adequacy

Retained Earnings

We must hold sufficient capital to protect against exposure to various risks, including market, credit, and operational risks. We regularly conduct a variety of measurements and assessments for capital adequacy. At June 30, 2023, our capital management policy set forth approximately $700 million as the minimum amount of retained earnings we believe is necessary to mitigate impairment risk.

The following table presents retained earnings.

(In millions)	June 30, 2023	December 31, 2022
Unrestricted retained earnings	$ 953	$ 841
Restricted retained earnings [1]	629	560
Total retained earnings	$ 1,582	$ 1,401

(1) Pursuant to the FHLBank System's Joint Capital Enhancement Agreement we are not permitted to distribute as dividends.

As indicated in the table above, our current balance of retained earnings exceeds the policy minimum, which we expect will continue to be the case as we bolster capital adequacy over time by allocating a portion of earnings to the restricted retained earnings account.

Market Capitalization Ratios

We measure two sets of market capitalization ratios. One measures the market value of equity (i.e., total capital) relative to the par value of regulatory capital stock (which is GAAP capital stock and mandatorily redeemable capital stock). The other measures the market value of total capital relative to the book value of total capital, which includes all components of capital, and mandatorily redeemable capital stock. The measures provide a point-in-time indication of the FHLB's liquidation or franchise value and can also serve as a measure of realized or potential market risk exposure.

The following table presents the market value of equity to regulatory capital stock (excluding retained earnings) for several interest rate environments.

	June 30, 2023	December 31, 2022
Market Value of Equity to Par Value of Regulatory Capital Stock - Base Case (Flat Rates) Scenario	122 %	119 %
Market Value of Equity to Par Value of Regulatory Capital Stock - Down Shock (1)	125	124
Market Value of Equity to Par Value of Regulatory Capital Stock - Up Shock (2)	118	115

(1) Represents a down shock of 200 basis points.
(2) Represents an up shock of 200 basis points.

A base case value below 100 percent could indicate that, in the remote event of an immediate liquidation scenario involving redemption of all capital stock, capital stock may be returned to stockholders at a value below par. This could be due to experiencing risks that lower the market value of capital and/or to having an insufficient amount of retained earnings. In the first six months of 2023, the market capitalization ratios in the scenarios presented continued to be above our policy requirements. The base case ratio at June 30, 2023 was still well above 100 percent because retained earnings were 27 percent of regulatory capital stock and we maintained stable market risk exposure.

The following table presents the market value of equity to the book value of total capital and mandatorily redeemable capital stock.

	June 30, 2023	December 31, 2022
Market Value of Equity to Book Value of Capital - Base Case (Flat Rates) Scenario (1)	96 %	94 %
Market Value of Equity to Book Value of Capital - Down Shock (1)(2)	99	98
Market Value of Equity to Book Value of Capital - Up Shock (1)(3)	93	91

(1) Capital includes total capital and mandatorily redeemable capital stock.
(2) Represents a down shock of 200 basis points.
(3) Represents an up shock of 200 basis points.

A base-case value below 100 percent indicates that we have realized or could realize risks (especially market risk), such that the market value of total capital owned by stockholders is below the book value of total capital. The base-case ratio at June 30, 2023 indicates that the market value of total capital is $269 million below the book value of total capital. In a scenario in which interest rates increase 200 basis points, the market value of total capital would be $501 million below the book value of total capital. This indicates that in a liquidation scenario, stockholders would not receive the full sum of their total equity ownership in the FHLB. We believe the likelihood of a liquidation scenario is extremely remote.

Credit Risk

Overview

We believe our risk management practices, discussed below, minimize residual credit risk levels. At June 30, 2023, we had no loan loss reserves or impairment recorded for Credit Services, investments and derivatives and had a minimal amount of credit risk exposure in the MPP.

Credit Services

Overview: The objective of our credit risk management activities is to equalize risk exposure across members and counterparties to a zero level of expected losses. This approach is consistent with our conservative risk management principles and desire to have no residual credit risk related to Advances and Letters of Credit.

Collateral: We require each member to provide a security interest in eligible collateral before it can undertake any secured borrowing. Eligible loan collateral types include the following: single- and multi-family residential, home equity, commercial real estate, government guaranteed and farm real estate. Eligible security types include those that are government or agency backed, along with highly-rated private-label residential and commercial mortgage-backed securities. We have conservative eligibility criteria within each of the above asset types. The estimated value of pledged collateral is discounted in order to offset market, credit, and liquidity risks that may affect the collateral's realizable value in the event it must be liquidated. At June 30, 2023, total eligible pledged collateral of $522.0 billion resulted in total borrowing capacity of $426.8 billion of which $133.1

billion was used to support outstanding Advances and Letters of Credit. Borrowers often pledge collateral in excess of their collateral requirement to demonstrate access to liquidity and to have the ability to borrow additional amounts in the future. Over-collateralization by one member is not applied to another member.

Borrowing Capacity/Lendable Value: Lendable Value Rates (LVRs) represent the percent of collateral value net of the discount, or haircut, we apply for purposes of determining borrowing capacity. LVRs are determined by statistical analysis and management assumptions relating to historical price volatility, inherent credit risks, liquidation costs, and the current credit and economic environment. We apply LVR results to the estimated values of pledged assets. LVRs vary among pledged assets and members based on the member institution type, the financial strength of the member institution, the form of valuation, lien position, the issuer of bond collateral or the quality of securitized assets, the quality of the loan collateral as reflected in the manner in which it was underwritten, and the marketability of the pledged assets.

Internal Credit Ratings: We perform credit underwriting of our members and nonmember institutions and assign them an internal credit rating. These credit ratings are based on internal and third-party ratings models, credit analyses and consideration of credit ratings from independent credit rating organizations. Credit ratings are used in conjunction with other measures of credit risk in managing secured credit risk exposure.

Member Failures, Closures, and Receiverships: There have been no member failures in 2023 through the date of this report.

MPP

Overview: The residual amount of credit risk exposure to loans in the MPP is minimal, based on the same factors described in the 2022 Annual Report on Form 10-K.

Conventional Loan Portfolio Characteristics: At June 30, 2023, the weighted average loan-to-value ratios for conventional loans based on origination values and estimated current values were 73 percent and 47 percent, respectively. The estimated weighted average current loan-to-value ratio at June 30, 2023 decreased only two percent from the ratio at December 31, 2022 as the changes in home values have been relatively stable.

Credit Performance: The table below provides an analysis of conventional loans delinquent or in the process of foreclosure, along with the national average serious delinquency rate.

	Conventional Loan Delinquencies	
(Dollars in millions)	June 30, 2023	December 31, 2022
Early stage delinquencies - unpaid principal balance (1)	$ 29	$ 31
Serious delinquencies - unpaid principal balance (2)	$ 9	$ 12
Early stage delinquency rate (3)	0.4 %	0.5 %
Serious delinquency rate (4)	0.1 %	0.2 %
National average serious delinquency rate (5)	1.2 %	1.4 %

(1) Includes conventional loans 30 to 89 days delinquent and not in foreclosure.
(2) Includes conventional loans that are 90 days or more past due or where the decision of foreclosure or a similar alternative such as pursuit of deed-in-lieu has been reported.
(3) Early stage delinquencies expressed as a percentage of the total conventional loan portfolio.
(4) Serious delinquencies expressed as a percentage of the total conventional loan portfolio.
(5) National average number of fixed-rate prime and subprime conventional loans that are 90 days or more past due or in the process of foreclosure is based on the most recent national delinquency data available. The June 30, 2023 rate is based on March 31, 2023 data.

Overall, the MPP has experienced a minimal amount of delinquencies, with delinquency rates continuing to be well below national averages. This further supports our view that the portfolio is comprised of high-quality, well-performing loans.

Credit Enhancements: Conventional mortgage loans are primarily supported against credit losses by some combination of credit enhancements (primary mortgage insurance (PMI) and the Lender Risk Account (LRA)). The LRA is a hold back of a portion of the initial purchase price to cover expected credit losses for a specific pool of loans. Starting after five years from the loan purchase date, we may return the hold back to Participating Financial Institutions (PFIs) if they manage credit risk to predefined acceptable levels of exposure on the pools of loans they sell to us. As a result, some pools of loans may have sufficient credit enhancements to recapture all losses while other pools of loans may not. The LRA had balances of $242 million and $244 million at June 30, 2023 and December 31, 2022, respectively. For more information, see Note 5 of the Notes to Unaudited Financial Statements.

Credit Losses: Residual credit risk exposure depends on the actual and potential credit performance of the loans in each pool compared to the pool's equity (on individual loans) and credit enhancements. Our available credit enhancements at June 30, 2023 were ample and able to cover nearly all of the estimated gross credit losses. As a result, estimated credit losses at June 30, 2023 were less than $1 million. Estimated credit losses, after credit enhancements, are accounted for in the allowance for credit losses or as a charge off (i.e., a reduction to the principal of mortgage loans held for portfolio).

Separate from our allowance for credit losses analysis, we regularly analyze potential adverse scenarios of lifetime credit risk exposure for the loans in the MPP. Even under severely adverse macroeconomic scenarios, we expect credit losses to remain low.

Investments

Liquidity Investments: We hold liquidity investments that can be converted to cash and may be unsecured, guaranteed or supported by the U.S. government, or secured (i.e., collateralized). For unsecured liquidity investments, we invest in the instruments of investment-grade rated institutions, have appropriate and conservative limits on dollar and maturity exposure to each institution, and have strong credit underwriting practices, including active monitoring of credit quality of our counterparties and of the environment in which they operate. In addition, we believe the portion of our liquidity investments for which the investments are secured with collateral (secured resale agreements) present no credit risk exposure to us. Liquidity investments generally fluctuate because of changes in the amount of actual Advances, anticipated demand for Advances, regulatory liquidity requirements, the availability of acceptable net spreads, and the number of eligible counterparties that meet our unsecured credit risk criteria.

The following table presents the carrying value of liquidity investments outstanding in relation to the counterparties' lowest long-term credit ratings provided by Standard & Poor's, Moody's, and/or Fitch Advisory Services. Our internal ratings of these investments may differ from those obtained from Standard & Poor's, Moody's, and/or Fitch Advisory Services. The ratings displayed in this table should not be taken as an indication of future ratings.

(In millions)	June 30, 2023			
	Long-Term Rating			
	AA	A	Unrated	Total
Unsecured Liquidity Investments				
Interest-bearing deposits	$ —	$ 2,245	$ —	$ 2,245
Federal funds sold	8,372	5,781	—	14,153
Total unsecured liquidity investments	8,372	8,026	—	16,398
Guaranteed/Secured Liquidity Investments				
Securities purchased under agreements to resell	9,770	1,435	1,000	12,205
U.S. Treasury obligations	7,696	—	—	7,696
GSE obligations	1,650	—	—	1,650
Total guaranteed/secured liquidity investments	19,116	1,435	1,000	21,551
Total liquidity investments	$ 27,488	$ 9,461	$ 1,000	$ 37,949

Some counterparties used to transact our securities purchased under agreements to resell are not rated by an NRSRO because they are not issuers of debt or are otherwise not required to be rated by an NRSRO. However, each of the counterparties are considered to have the equivalent of at least an investment grade rating based on our internal ratings resulting from a fundamental credit analysis. Securities purchased under agreements to resell are secured by the following types of collateral: U.S. Treasury obligations, U.S. agency/GSE obligations, or U.S. agency/GSE MBS. At June 30, 2023, the collateral received had long-term credit ratings of AA, based on the lowest long-term credit ratings of the issuer as provided by Standard & Poor’s, Moody’s, and/or Fitch Advisory Services. The terms of our securities purchased under agreements to resell are structured such that if the fair value of the underlying securities decreases below the fair value required as collateral, the counterparty must place an equivalent amount of additional securities as collateral or remit an equivalent amount of cash. Additionally, these investments primarily mature overnight. All overnight investments in securities purchased under agreements to resell outstanding at June 30, 2023 were repaid according to their respective contractual terms.

The following table presents the lowest long-term credit ratings provided by Standard & Poor's, Moody's, and/or Fitch Advisory Services of our unsecured investment credit exposure by the domicile of the counterparty or the domicile of the counterparty's immediate parent for U.S. branches and agency offices of foreign commercial banks. Our internal ratings of these investments may differ from those obtained from Standard & Poor's, Moody's, and/or Fitch Advisory Services. The ratings displayed in this table should not be taken as an indication of future ratings.

(In millions)	June 30, 2023		
	Counterparty Rating		
Domicile of Counterparty	AA	A	Total
Domestic	$ 1,500	$ 2,595	$ 4,095
U.S. branches and agency offices of foreign commercial banks:			
Canada	4,325	250	4,575
Netherlands	—	1,500	1,500
Norway	1,500	—	1,500
Finland	1,047	—	1,047
France	—	750	750
Australia	—	650	650
Belgium	—	650	650
United Kingdom	—	600	600
Germany	—	531	531
Sweden	—	500	500
Total U.S. branches and agency offices of foreign commercial banks	6,872	5,431	12,303
Total unsecured investment credit exposure	$ 8,372	$ 8,026	$ 16,398

We are prohibited by Finance Agency regulation from investing in financial instruments issued by non-U.S. entities. Furthermore, we restrict a significant portion of unsecured lending to overnight maturities, which further limits credit risk exposure.

MBS:

GSE MBS

At June 30, 2023, $16.7 billion of MBS held were GSE securities issued by Fannie Mae and Freddie Mac, which provide credit safeguards by guaranteeing either timely or ultimate payments of principal and interest. We believe that the conservatorships of Fannie Mae and Freddie Mac lower the chance that they would not be able to fulfill their credit guarantees.

MBS Issued by Other Government Agencies

We also invest in MBS issued and guaranteed by Ginnie Mae. These investments totaled $1.2 billion at June 30, 2023. We believe that the strength of Ginnie Mae's guarantee and backing by the full faith and credit of the U.S. government is sufficient to protect us against credit losses on these securities.

Derivatives

Credit Risk Exposure: We mitigate most of the credit risk exposure resulting from derivative transactions through collateralization or use of daily settled contracts. The table below presents the lowest long-term counterparty credit ratings provided by Standard & Poor's, Moody's, and/or Fitch Advisory Services for derivative positions to which we had credit risk exposure at June 30, 2023. The ratings displayed in this table should not be taken as an indication of future ratings.

(In millions)	Total Notional	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged to (from) Counterparties	Net Credit Exposure to Counterparties
Nonmember counterparties:				
Asset positions with credit exposure:				
Uncleared derivatives:				
A-rated	$ 6,255	$ 25	$ (23)	$ 2
BBB-rated	10,725	44	(35)	9
Total uncleared derivatives	16,980	69	(58)	11
Liability positions with credit exposure:				
Uncleared derivatives:				
A-rated	3,918	(9)	14	5
Total uncleared derivatives	3,918	(9)	14	5
Cleared derivatives (1)	44,495	(19)	705	686
Member institutions (2)	19	—	—	—
Total	$ 65,412	$ 41	$ 661	$ 702

(1) Represents derivative transactions cleared with LCH Ltd. and CME Clearing, the FHLB's clearinghouses. LCH Ltd. is rated AA- by Standard & Poor's, and CME Clearing is not rated, but its parent company, CME Group Inc., is rated Aa3 by Moody's and AA- by Standard & Poor's.
(2) Represents Mandatory Delivery Contracts.

Our exposure to cleared derivatives is primarily associated with the requirement to post initial margin through the clearing agent to the Derivatives Clearing Organizations. We pledge cash as collateral to satisfy this initial margin requirement. However, the use of cleared derivatives mitigates credit risk exposure because a central counterparty is substituted for individual counterparties.

At June 30, 2023, the net exposure of uncleared derivatives with residual credit risk exposure was $16 million. If interest rates rise or the composition of our derivatives change resulting in an increase to our gross exposure to uncleared derivatives, the contractual collateral provisions in these derivatives would limit our net exposure to acceptable levels.

Although we cannot predict if we will realize credit risk losses from any of our derivatives counterparties, we believe that all of the counterparties will be able to continue making timely interest payments and, more generally, to continue to satisfy the terms and conditions of their derivative contracts with us. As of June 30, 2023, we had a $0.4 billion notional amount of interest rate swaps with a subsidiary of our member, JPMorgan Chase Bank, N.A., which also had outstanding credit services with us. We had a de minimis amount of credit exposure to this counterparty related to interest rate swaps outstanding given the collateral exchanged.

Liquidity Risk

Liquidity Overview

We strive to be in a liquidity position at all times to meet the borrowing needs of our members and to meet all current and future financial commitments. This objective is achieved by managing liquidity positions to maintain stable, reliable, and cost-effective sources of funds while taking into account market conditions, member demand, and the maturity profile of assets and liabilities. At June 30, 2023, our liquidity position complied with the FHLBank Act, Finance Agency regulations, and internal policies.

The FHLBank System's primary source of funds is the sale of Consolidated Obligations in the capital markets. Our ability to obtain funds through the sale of Consolidated Obligations at acceptable interest costs depends on the financial market's perception of the riskiness of the Obligations and on prevailing conditions in the capital markets, particularly the short-term capital markets. The System's favorable debt ratings, which takes into account our status as a GSE, and our effective risk management practices are instrumental in ensuring stable and satisfactory access to the capital markets.

We believe our liquidity position, as well as that of the System, continued to be strong during the first six months of 2023. Our overall ability to effectively fund our operations through debt issuances remained sufficient. Investor demand for System debt was robust in the first six months of 2023, as investors continued to prefer short-term, high-quality money market instruments. We believe there is a low probability of a liquidity or funding crisis in the System that would impair our ability to participate, on a cost-effective basis, in issuances of debt, service outstanding debt, maintain adequate capitalization, or pay competitive dividends.

The System works collectively to manage and monitor the System-wide liquidity and funding risks. Liquidity risk includes the risk that the System could have difficulty rolling over short-term Obligations when market conditions change, also called refinancing risk. The System has a large reliance on short-term funding; therefore, it has a sharp focus on managing liquidity risk to very low levels. As shown on the unaudited Statements of Cash Flows, in the first six months of 2023, our portion of the System's debt issuances totaled $137.5 billion for Discount Notes and $80.7 billion for Bonds. Access to short-term debt markets has been reliable because investors, driven by liquidity preferences and risk aversion, have sought the System’s short-term debt, which has resulted in strong demand for debt maturing in one year or less.

See the Notes to Unaudited Financial Statements for more detailed information regarding maturities of certain financial assets and liabilities which are instrumental in determining the amount of liquidity risk. In addition to contractual maturities, other assumptions regarding cash flows such as estimated prepayments, embedded call optionality, and scheduled amortization are considered when managing liquidity risks.

Liquidity Management and Regulatory Requirements

We manage liquidity risk by ensuring compliance with our regulatory liquidity requirements and regularly monitoring other metrics.

The Finance Agency establishes the expectations with respect to the maintenance of sufficient liquidity without access to the capital markets for a specified number of days, which was set as a period of between 10 to 30 calendar days in the base case. Under these expectations, all Advance maturities are assumed to renew, unless the Advances relate to former members who are ineligible to borrow new Advances. The maintenance of sufficient liquidity each day is intended to provide additional assurance that we can continue to provide Advances and Letters of Credit to members over an extended period without access to the capital markets. With one exception, we were in compliance with these liquidity requirements at all times during the six months ended June 30, 2023. On one day in the first quarter of 2023, our regulatory liquidity balances fell below 10 calendar days because of unusually large and unforeseen Advance demand in connection with the stress placed on the banking industry and financial markets in March 2023.

The Finance Agency also provides guidance related to asset/liability maturity funding gap limits. Funding gap metrics measure the difference between assets and liabilities that are scheduled to mature during a specified period of time and are expressed as a percentage of total assets. Although subject to change depending on conditions in the financial markets, the current regulatory requirement for funding gaps is between -10 percent to -20 percent for the three-month maturity horizon and is between -25 percent to -35 percent for the one-year maturity horizon. During the six months ended June 30, 2023, we were operating within those limits.

To support our member deposits, we also must meet a statutory deposit reserve requirement. The sum of our investments in obligations of the United States, deposits in eligible banks or trust companies, and Advances with a final maturity not exceeding five years must equal or exceed the current amount of member deposits. The following table presents the components of this liquidity requirement.

(In millions)	June 30, 2023	December 31, 2022
Deposit Reserve Requirement		
Total Eligible Deposit Reserves	$ 109,944	$ 80,428
Total Member Deposits	(1,156)	(1,043)
Excess Deposit Reserves	$ 108,788	$ 79,385

Member Concentration Risk

We regularly assess concentration risks from business activity. We believe that the concentration of Advance activity is consistent with our risk management philosophy, and the impact of borrower concentration on market risk, credit risk, and operational risk, after considering mitigating controls, is minimal.

Operational Risks

There were no material developments regarding our operational risk exposure during the first six months of 2023.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

There have been no material changes in the first six months of 2023 to our critical accounting policies and estimates. Our critical accounting policies and estimates are described in detail in our 2022 Annual Report on Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Information required by this Item is set forth under the caption "Quantitative and Qualitative Disclosures About Risk Management" in Part I, Item 2, of this Report.

Item 4. Controls and Procedures.

DISCLOSURE CONTROLS AND PROCEDURES

The FHLB's management, including its principal executive officer and principal financial officer, evaluate the effectiveness of the FHLB's disclosure controls and procedures as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act"). Based upon that evaluation, these two officers each concluded that, as of June 30, 2023, the FHLB maintained effective disclosure controls and procedures designed to ensure that information required to be disclosed in the reports that it files under the Exchange Act is (1) accumulated and communicated to management as appropriate to allow timely decisions regarding disclosure and (2) recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

The FHLB's management, including its principal executive officer and principal financial officer, evaluate the FHLB's internal control over financial reporting. Based upon that evaluation, these two officers each concluded that there were no changes in the FHLB's internal control over financial reporting that occurred during the quarter ended June 30, 2023 that materially affected, or are reasonably likely to materially affect, the FHLB's internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

Information regarding legal proceedings is set forth in Note 13 - Commitments and Contingencies in Part I, Item 1, of this Report.

Item 1A. Risk Factors.

For a discussion of our risk factors, see Part I, Item 1A. "Risk Factors" in our 2022 Annual Report on Form 10-K. There have been no material changes from the risk factors in our 2022 Annual Report on Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Number [1]	Description of exhibit	Document filed or furnished, as indicated below
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer	Filed Herewith
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer	Filed Herewith
32	Section 1350 Certifications	Furnished Herewith
101.INS	XBRL Instance Document	The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document	Filed Herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed Herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Filed Herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed Herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed Herewith
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)	Filed Herewith

(1) Numbers coincide with Item 601 of Regulation S-K.

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, as of the 10th day of August 2023.

FEDERAL HOME LOAN BANK OF CINCINNATI
(Registrant)

By: /s/ Andrew S. Howell
Andrew S. Howell
President and Chief Executive Officer
(principal executive officer)

By: /s/ Stephen J. Sponaugle
Stephen J. Sponaugle
Executive Vice President - Chief Financial Officer
(principal financial officer)