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, 2022

OR

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

Commission File Number 000-51405

FEDERAL HOME LOAN BANK OF DALLAS

(Exact name of registrant as specified in its charter)

Federally chartered corporation	**71-6013989**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
8500 Freeport Parkway South, Suite 600	
Irving, TX	**75063-2547**
(Address of principal executive offices)	(Zip code)

(214) 441-8500

(Registrant's telephone number, including area code)

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

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

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 (17 C.F.R. §232.405) 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 ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date:
At August 5, 2022, the registrant had outstanding 28,865,094 shares of its Class B Capital Stock, $100 par value per share.

FEDERAL HOME LOAN BANK OF DALLAS

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CONDITION
(Unaudited; in thousands, except share data)

	June 30, 2022	December 31, 2021
ASSETS		
Cash and due from banks	$ 29,647	$ 542,801
Interest-bearing deposits (Notes 8 and 9)	915,295	885,745
Securities purchased under agreements to resell (Notes 8, 9 and 12)	14,200,000	10,650,000
Federal funds sold (Notes 8 and 9)	6,344,000	4,781,000
Trading securities (Notes 3 and 8)	1,514,529	2,454,870
Available-for-sale securities [(a)] (Notes 4, 8, 9, 12 and 17) ($521,582 and $529,596 pledged at June 30, 2022 and December 31, 2021, respectively, which could be rehypothecated)	13,632,317	15,288,032
Held-to-maturity securities [(b)] (Notes 5, 8 and 9)	447,478	593,555
Advances (Notes 6, 8 and 9)	36,375,762	24,637,464
Mortgage loans held for portfolio, net of allowance for credit losses of $3,091 and $3,124 at June 30, 2022 and December 31, 2021, respectively (Notes 7, 8 and 9)	3,985,872	3,491,265
Accrued interest receivable (Note 8)	110,342	91,581
Premises and equipment, net	15,534	15,485
Derivative assets (Notes 12 and 13)	122,100	7,077
Other assets (including $15,323 and $17,574 of securities held at fair value at June 30, 2022 and December 31, 2021, respectively)	21,848	49,501
TOTAL ASSETS	$ 77,714,724	$ 63,488,376
LIABILITIES AND CAPITAL		
Deposits (including $20 of non-interest bearing deposits at June 30, 2022 and December 31, 2021)	$ 1,676,884	$ 1,590,188
Consolidated obligations (Note 10)		
Discount notes	29,622,896	11,003,026
Bonds	40,944,088	44,514,220
Total consolidated obligations	70,566,984	55,517,246
Mandatorily redeemable capital stock	13,698	6,657
Accrued interest payable	116,163	73,038
Affordable Housing Program (Note 11)	59,139	60,133
Derivative liabilities (Notes 12 and 13)	102,873	13,956
Other liabilities (Note 3)	546,861	2,293,467
Total liabilities	73,082,602	59,554,685
Commitments and contingencies (Notes 9 and 17)		
CAPITAL (Note 14)		
Capital stock		
Capital stock — Class B-1 putable ($100 par value) issued and outstanding shares: 14,098,883 and 12,818,137 shares at June 30, 2022 and December 31, 2021, respectively	1,409,888	1,281,814
Capital stock — Class B-2 putable ($100 par value) issued and outstanding shares: 13,884,929 and 9,106,902 shares at June 30, 2022 and December 31, 2021, respectively	1,388,493	910,690
Total Class B Capital Stock	2,798,381	2,192,504
Retained earnings		
Unrestricted	1,368,930	1,291,656
Restricted	288,095	266,761
Total retained earnings	1,657,025	1,558,417
Accumulated other comprehensive income (Note 20)	176,716	182,770
Total capital	4,632,122	3,933,691
TOTAL LIABILITIES AND CAPITAL	$ 77,714,724	$ 63,488,376

(a) Amortized cost: $13,488,366 and $15,046,972 at June 30, 2022 and December 31, 2021, respectively.

(b) Fair values: $454,217 and $606,352 at June 30, 2022 and December 31, 2021, respectively.

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

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF INCOME
(Unaudited, in thousands)

	For the Three Months Ended June 30, 2022	For the Three Months Ended June 30, 2021	For the Six Months Ended June 30, 2022	For the Six Months Ended June 30, 2021
INTEREST INCOME				
Advances	$ 105,264	$ 28,322	$ 141,202	$ 61,666
Prepayment fees on advances, net	5,763	1,261	7,833	3,539
Interest-bearing deposits	4,919	240	5,491	550
Securities purchased under agreements to resell	1,009	9	1,617	36
Federal funds sold	12,836	625	13,527	1,280
Trading securities	4,216	1,702	7,832	7,111
Available-for-sale securities	65,432	24,258	122,464	75,052
Held-to-maturity securities	1,597	1,355	2,691	2,871
Mortgage loans held for portfolio	27,582	17,944	51,313	36,419
Total interest income	228,618	75,716	353,970	188,524
INTEREST EXPENSE				
Consolidated obligations				
Bonds	82,613	17,590	106,568	41,220
Discount notes	41,567	7,039	51,770	16,381
Deposits	3,006	70	3,333	141
Mandatorily redeemable capital stock	43	5	47	14
Other borrowings	2	(5)	2	(11)
Total interest expense	127,231	24,699	161,720	57,745
NET INTEREST INCOME	101,387	51,017	192,250	130,779
Provision (reversal) for mortgage loan losses	(711)	(145)	(33)	(438)
NET INTEREST INCOME AFTER PROVISION (REVERSAL) FOR MORTGAGE LOAN LOSSES	102,098	51,162	192,283	131,217
OTHER INCOME (LOSS)				
Net losses on trading securities	(4,455)	(465)	(19,201)	(6,906)
Net gains (losses) on derivatives and hedging activities	(4,225)	882	(14,272)	182
Net gains (losses) on other assets carried at fair value	(1,647)	720	(2,340)	1,209
Letter of credit fees	3,261	3,613	6,747	7,304
Other, net	1,354	906	2,523	2,291
Total other income (loss)	(5,712)	5,656	(26,543)	4,080
OTHER EXPENSE				
Compensation and benefits	10,071	13,504	21,491	27,249
Other operating expenses	9,757	8,846	18,635	17,309
Finance Agency	1,668	1,554	3,457	3,108
Office of Finance	1,237	1,329	2,547	2,517
Discretionary grants and donations	286	194	314	270
Derivative clearing fees	528	253	770	514
Total other expense	23,547	25,680	47,214	50,967
INCOME BEFORE ASSESSMENTS	72,839	31,138	118,526	84,330
Affordable Housing Program assessment	7,288	3,115	11,857	8,434
NET INCOME	$ 65,551	$ 28,023	$ 106,669	$ 75,896

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

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited, in thousands)

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2022	2021	2022	2021
NET INCOME	$ 65,551	$ 28,023	$ 106,669	$ 75,896
OTHER COMPREHENSIVE INCOME (LOSS)				
Net unrealized gains (losses) on available-for-sale securities, net of unrealized gains and losses relating to hedged interest rate risk included in net income	(27,967)	(23,936)	(97,109)	132,214
Unrealized gains (losses) on cash flow hedges	25,656	(20,054)	81,509	29,910
Reclassification adjustment for losses on cash flow hedges included in net income	3,545	5,562	8,842	11,019
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	339	506	732	1,019
Postretirement benefit plan				
Amortization of prior service cost included in net periodic benefit cost/credit	5	5	10	10
Amortization of net actuarial gain included in net periodic benefit cost/credit	(19)	(17)	(38)	(34)
Total other comprehensive income (loss)	1,559	(37,934)	(6,054)	174,138
TOTAL COMPREHENSIVE INCOME (LOSS)	$ 67,110	$ (9,911)	$ 100,615	$ 250,034

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

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CAPITAL
FOR THE THREE MONTHS ENDED JUNE 30, 2022 AND 2021
(Unaudited, in thousands)

	Capital Stock Class B-1 - Putable (Membership/Excess)		Capital Stock Class B-2 - Putable (Activity)		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
	Shares	Par Value	Shares	Par Value	Unrestricted	Restricted	Total		
BALANCE, APRIL 1, 2022	12,865	$ 1,286,484	10,047	$ 1,004,732	$ 1,320,857	$ 274,985	$ 1,595,842	$ 175,157	$ 4,062,215
Net transfers of shares between Class B-1 and Class B-2 Stock	7,206	720,649	(7,206)	(720,649)	—	—	—	—	—
Proceeds from sale of capital stock	91	9,039	11,044	1,104,410	—	—	—	—	1,113,449
Repurchase/redemption of capital stock	(6,106)	(610,567)	—	—	—	—	—	—	(610,567)
Comprehensive income (loss)									
Net income	—	—	—	—	52,441	13,110	65,551	—	65,551
Other comprehensive income	—	—	—	—	—	—	—	1,559	1,559
Dividends on capital stock [a]									
Cash	—	—	—	—	(63)	—	(63)	—	(63)
Mandatorily redeemable capital stock	—	—	—	—	(22)	—	(22)	—	(22)
Stock	43	4,283	—	—	(4,283)	—	(4,283)	—	—
BALANCE, JUNE 30, 2022	14,099	$ 1,409,888	13,885	$ 1,388,493	$ 1,368,930	$ 288,095	$ 1,657,025	$ 176,716	$ 4,632,122
BALANCE, APRIL 1, 2021	10,601	$ 1,060,097	9,481	$ 948,163	$ 1,208,741	$ 243,461	$ 1,452,202	$ 259,332	$ 3,719,794
Net transfers of shares between Class B-1 and Class B-2 Stock	3,551	355,085	(3,551)	(355,085)	—	—	—	—	—
Proceeds from sale of capital stock	127	12,714	3,409	340,828	—	—	—	—	353,542
Repurchase/redemption of capital stock	(2,723)	(272,291)	—	—	—	—	—	—	(272,291)
Shares reclassified to mandatorily redeemable capital stock	—	(40)	—	—	—	—	—	—	(40)
Comprehensive income									
Net income	—	—	—	—	22,419	5,604	28,023	—	28,023
Other comprehensive income (loss)	—	—	—	—	—	—	—	(37,934)	(37,934)
Dividends on capital stock [b]									
Cash	—	—	—	—	(54)	—	(54)	—	(54)
Stock	32	3,268	—	—	(3,268)	—	(3,268)	—	—
BALANCE, JUNE 30, 2021	11,588	$ 1,158,833	9,339	$ 933,906	$ 1,227,838	$ 249,065	$ 1,476,903	$ 221,398	$ 3,791,040

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CAPITAL
FOR THE SIX MONTHS ENDED JUNE 30, 2022 AND 2021
(Unaudited, in thousands)

	Capital Stock Class B-1 - Putable (Membership/Excess)		Capital Stock Class B-2 - Putable (Activity)		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
	Shares	Par Value	Shares	Par Value	Unrestricted	Restricted	Total		
BALANCE, JANUARY 1, 2022	12,818	$ 1,281,814	9,107	$ 910,690	$ 1,291,656	$ 266,761	$ 1,558,417	$ 182,770	$ 3,933,691
Net transfers of shares between Class B-1 and Class B-2 Stock	10,324	1,032,381	(10,324)	(1,032,381)	—	—	—	—	—
Proceeds from sale of capital stock	105	10,475	15,102	1,510,184	—	—	—	—	1,520,659
Repurchase/redemption of capital stock	(9,134)	(913,382)	—	—	—	—	—	—	(913,382)
Shares reclassified to mandatorily redeemable capital stock	(93)	(9,320)	—	—	—	—	—	—	(9,320)
Comprehensive income									
Net income	—	—	—	—	85,335	21,334	106,669	—	106,669
Other comprehensive income (loss)	—	—	—	—	—	—	—	(6,054)	(6,054)
Dividends on capital stock [(a)]									
Cash	—	—	—	—	(119)	—	(119)	—	(119)
Mandatorily redeemable capital stock	—	—	—	—	(22)	—	(22)	—	(22)
Stock	79	7,920	—	—	(7,920)	—	(7,920)	—	—
BALANCE, JUNE 30, 2022	14,099	$ 1,409,888	13,885	$ 1,388,493	$ 1,368,930	$ 288,095	$ 1,657,025	$ 176,716	$ 4,632,122
BALANCE, JANUARY 1, 2021	9,044	$ 904,448	11,969	$ 1,196,932	$ 1,174,359	$ 233,886	$ 1,408,245	$ 47,260	$ 3,556,885
Net transfers of shares between Class B-1 and Class B-2 Stock	9,351	935,081	(9,351)	(935,081)	—	—	—	—	—
Proceeds from sale of capital stock	127	12,714	6,721	672,055	—	—	—	—	684,769
Repurchase/redemption of capital stock	(7,005)	(700,501)	—	—	—	—	—	—	(700,501)
Shares reclassified to mandatorily redeemable capital stock	—	(40)	—	—	—	—	—	—	(40)
Comprehensive income									
Net income	—	—	—	—	60,717	15,179	75,896	—	75,896
Other comprehensive income	—	—	—	—	—	—	—	174,138	174,138
Dividends on capital stock [(b)]									
Cash	—	—	—	—	(107)	—	(107)	—	(107)
Stock	71	7,131	—	—	(7,131)	—	(7,131)	—	—
BALANCE, JUNE 30, 2021	11,588	$ 1,158,833	9,339	$ 933,906	$ 1,227,838	$ 249,065	$ 1,476,903	$ 221,398	$ 3,791,040

[(a)] Dividends were paid at annualized rates of 0.09 percent and 1.09 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the first quarter of 2022 and at annualized rates of 0.23 percent and 1.23 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the second quarter of 2022.

[(b)] Dividends were paid at annualized rates of 0.15 percent and 1.15 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the first quarter of 2021 and at annualized rates of 0.12 percent and 1.12 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the second quarter of 2021.

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

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	For the Six Months Ended June 30,	
	2022	2021
OPERATING ACTIVITIES		
Net income	$ 106,669	$ 75,896
Adjustments to reconcile net income to net cash provided by operating activities		
Depreciation and amortization		
Net premiums and discounts on advances, consolidated obligations, investments and mortgage loans	48,383	28,324
Concessions on consolidated obligations	2,175	1,389
Premises, equipment and computer software costs	2,516	2,663
Non-cash interest on mandatorily redeemable capital stock	8	19
Provision (reversal) for mortgage loan losses	(33)	(438)
Net losses (gains) on other assets carried at fair value	2,340	(1,209)
Net losses on trading securities	19,201	6,906
Net change in derivative and hedging activities	1,104,913	406,408
Decrease (increase) in accrued interest receivable	(20,421)	12,836
Decrease in other assets	24,668	1,523
Decrease in Affordable Housing Program (AHP) liability	(994)	(3,927)
Increase in accrued interest payable	43,125	25,415
Decrease in other liabilities	(7,126)	(2,870)
Total adjustments	1,218,755	477,039
Net cash provided by operating activities	1,325,424	552,935
INVESTING ACTIVITIES		
Net decrease (increase) in interest-bearing deposits, including swap collateral pledged	(1,306,315)	266,954
Net increase in securities purchased under agreements to resell	(3,550,000)	(5,250,000)
Net increase in federal funds sold	(1,563,000)	(2,569,000)
Purchases of trading securities	(8,397,931)	(8,070,993)
Proceeds from maturities of trading securities	1,750,000	9,304,100
Proceeds from sales of trading securities	5,321,059	993,550
Purchases of available-for-sale securities	(610,039)	—
Principal collected on available-for-sale securities	1,724,261	131,075
Principal collected on held-to-maturity securities	147,035	159,687
Principal collected on advances	374,994,578	361,020,563
Advances made	(387,148,662)	(353,662,478)
Principal collected on mortgage loans held for portfolio	311,159	748,256
Purchases of mortgage loans held for portfolio	(813,752)	(548,197)
Purchases of premises, equipment and computer software	(1,890)	(2,991)
Net cash provided by (used in) investing activities	(19,143,497)	2,520,526

	For the Six Months Ended June 30,	
	2022	2021
FINANCING ACTIVITIES		
Net increase in deposit liabilities, including swap collateral held	79,731	39,029
Net proceeds from derivative contracts with financing elements	168,162	47,490
Net proceeds from issuance of consolidated obligations		
Discount notes	53,660,866	18,678,901
Bonds	11,695,974	27,497,210
Debt issuance costs	(2,491)	(657)
Payments for maturing and retiring consolidated obligations		
Discount notes	(35,071,651)	(29,474,226)
Bonds	(13,830,520)	(22,827,465)
Proceeds from issuance of capital stock	1,520,659	684,769
Proceeds from issuance of mandatorily redeemable capital stock	13	22
Payments for redemption of mandatorily redeemable capital stock	(2,323)	(7,253)
Payments for repurchase/redemption of capital stock	(913,382)	(700,501)
Cash dividends paid	(119)	(107)
Net cash provided by (used in) financing activities	17,304,919	(6,062,788)
Net decrease in cash and cash equivalents	(513,154)	(2,989,327)
Cash and cash equivalents at beginning of the period	542,801	3,178,281
Cash and cash equivalents at end of the period	$ 29,647	$ 188,954
Supplemental Disclosures:		
Interest paid	$ 86,482	$ 67,245
AHP payments, net	$ 12,851	$ 12,361
Stock dividends issued	$ 7,920	$ 7,131
Dividends paid through issuance of mandatorily redeemable capital stock	$ 22	$ —
Net capital stock reclassified to mandatorily redeemable capital stock	$ 9,320	$ 40

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

FEDERAL HOME LOAN BANK OF DALLAS

NOTES TO INTERIM UNAUDITED FINANCIAL STATEMENTS

Note 1—Basis of Presentation

The accompanying interim financial statements of the Federal Home Loan Bank of Dallas (the "Bank") are unaudited and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and with the instructions provided by Article 10, Rule 10-01 of Regulation S-X promulgated by the Securities and Exchange Commission ("SEC"). Accordingly, they do not include all of the information and disclosures required by generally accepted accounting principles for complete financial statements. The financial statements contain all adjustments that are, in the opinion of management, necessary for a fair statement of the Bank's financial position, results of operations and cash flows for the interim periods presented. All such adjustments were of a normal recurring nature. The results of operations for the periods presented are not necessarily indicative of the results to be expected for the full fiscal year or any other interim period.

The Bank's significant accounting policies and certain other disclosures are set forth in the notes to the audited financial statements for the year ended December 31, 2021. The interim financial statements presented herein should be read in conjunction with the Bank's audited financial statements and notes thereto, which are included in the Bank's Annual Report on Form 10-K for the year ended December 31, 2021 filed with the SEC on March 23, 2022 (the "2021 10-K"). The notes to the interim financial statements update and/or highlight significant changes to the notes included in the 2021 10-K.

The Bank is one of 11 district Federal Home Loan Banks, each individually a "FHLBank" and collectively the "FHLBanks," and, together with the Office of Finance, a joint office of the FHLBanks, the "FHLBank System." The Office of Finance manages the sale and servicing of the FHLBanks' consolidated obligations. The Federal Housing Finance Agency ("Finance Agency"), an independent agency in the executive branch of the U.S. government, supervises and regulates the housing government-sponsored enterprises ("GSEs"), including the FHLBanks and the Office of Finance.

Use of Estimates and Assumptions. The preparation of financial statements in conformity with U.S. GAAP requires management to make assumptions and estimates. These assumptions and estimates may affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expenses. Significant estimates include the valuations of the Bank's investment securities (including, but not limited to, its investments in mortgage-backed securities ("MBS")), as well as its derivative instruments and any associated hedged items. Actual results could differ from these estimates.

Note 2—Recently Issued Accounting Guidance

Derivatives and Hedging. On March 28, 2022, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2022-01, *"Fair Value Hedging - Portfolio Layer Method"* ("ASU 2022-01"), which expands the current last-of-layer method to allow multiple hedged layers to be designated for a single closed portfolio. To reflect that expansion, the last-of-layer method was renamed the portfolio layer method. In addition, ASU 2022-01: (i) expands the scope of the portfolio layer method to include nonprepayable financial assets, (ii) specifies eligible hedging instruments in a single-layer hedge, (iii) 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.

For public business entities, ASU 2022-01 is effective for fiscal years beginning after December 15, 2022, and interim periods within those fiscal years (January 1, 2023 for the Bank). Early adoption is permitted. Upon adoption, any entity may designate multiple hedged layers of a single closed portfolio solely on a prospective basis. All entities are required to apply the amendments related to hedge basis adjustments under the portfolio layer method on a modified retrospective basis by means of a cumulative-effect adjustment to the opening balance of retained earnings on the initial application date. Entities have the option to apply the amendments related to disclosures on a prospective basis from the initial application date or on a retrospective basis. An entity may reclassify debt securities classified as held-to-maturity at the date of adoption to available-for-sale only if the entity applies portfolio layer method hedging to one or more closed portfolios that include those debt securities. The decision of which securities to reclassify must be made within 30 days after the date of adoption, and the securities must be included in one or more closed portfolios that are designated in a portfolio layer method hedge within that 30-day period. To date, the Bank has not used the last-of-layer method in its hedging strategies; however, the Bank may elect to use the portfolio layer method in the future.

Troubled Debt Restructuring. On March 31, 2022, the FASB issued ASU 2022-02, *"Troubled Debt Restructurings and Vintage Disclosures"* ("ASU 2022-02"). ASU 2022-02 eliminates the accounting guidance for troubled debt restructurings ("TDRs") by creditors that have adopted ASU 2016-13, *"Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13")* and instead requires that an entity evaluate whether the modification represents a new loan or a continuation of an existing loan. In addition, ASU 2022-02 enhances existing disclosure requirements and introduces new requirements related to certain modifications of receivables made to borrowers experiencing financial difficulty. Further, ASU 2022-02 requires disclosure of current-period gross write-offs by year of origination for financing receivables and net investments in leases.

For entities that have adopted ASU 2016-13, ASU 2022-02 is effective for fiscal years beginning after December 15, 2022, and interim periods within those fiscal years (January 1, 2023 for the Bank). Early adoption is permitted if an entity has already adopted ASU 2016-13. The amendments in ASU 2022-02 are to be applied prospectively except that, for the transition method related to the recognition and measurement of troubled debt restructurings, an entity has the option to apply a modified retrospective transition method, resulting in a cumulative-effect adjustment to retained earnings in the period of adoption. The Bank is evaluating the impact of ASU 2022-02 on its disclosures; however, the Bank does not expect the adoption of ASU 2022-02 to have a material impact on its financial condition or results of operations.

Note 3—Trading Securities

Trading securities as of June 30, 2022 and December 31, 2021 were as follows (in thousands):

	June 30, 2022	December 31, 2021
U.S. Treasury Bills	$ 822,751	$ 2,249,587
U.S. Treasury Notes	691,778	205,283
Total	$ 1,514,529	$ 2,454,870

Included in the table above are U.S. Treasury Bills that were purchased but which had not yet settled as of December 31, 2021. The aggregate amount due of $2,249,587,000 is included in other liabilities on the statement of condition at that date.

Net losses on trading securities during the six months ended June 30, 2022 and 2021 included changes in net unrealized holding loss of $17,862,000 and $2,741,000 for securities that were held on June 30, 2022 and 2021, respectively.

Note 4—Available-for-Sale Securities

Major Security Types. Available-for-sale securities as of June 30, 2022 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Debentures				
U.S. government-guaranteed obligations	$ 282,441	$ 3,348	$ —	$ 285,789
GSE obligations	3,252,966	54,990	2,662	3,305,294
	3,535,407	58,338	2,662	3,591,083
GSE commercial MBS	9,952,959	97,866	9,591	10,041,234
Total	$ 13,488,366	$ 156,204	$ 12,253	$ 13,632,317

Available-for-sale securities as of December 31, 2021 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Debentures				
U.S. government-guaranteed obligations	$ 414,267	$ 4,229	$ 460	$ 418,036
GSE obligations	4,471,107	78,983	4,412	4,545,678
Other	38,544	44	—	38,588
	4,923,918	83,256	4,872	5,002,302
GSE commercial MBS	10,123,054	165,783	3,107	10,285,730
Total	$ 15,046,972	$ 249,039	$ 7,979	$ 15,288,032

In the tables above, the amortized cost of the Bank's available-for-sale securities includes premiums, discounts and hedging adjustments. Amortized cost excludes accrued interest of $49,469,000 and $59,393,000 at June 30, 2022 and December 31, 2021, respectively. Included in the table above are GSE commercial MBS that were purchased but which had not yet settled as of June 30, 2022. The aggregate amount due of $510,079,000 is included in other liabilities on the statement of condition at that date.

Other debentures were comprised of securities issued by the Private Export Funding Corporation. These debentures were fully secured by U.S. government-guaranteed obligations and the payment of interest on the debentures was guaranteed by an agency of the U.S. government.

The following table summarizes (in thousands) the available-for-sale securities with unrealized losses as of June 30, 2022. The unrealized losses are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months		12 Months or More		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
GSE debentures	$ —	$ —	$ 74,358	$ 2,662	$ 74,358	$ 2,662
GSE commercial MBS	813,911	6,789	62,452	2,802	876,363	9,591
Total	$ 813,911	$ 6,789	$ 136,810	$ 5,464	$ 950,721	$ 12,253

The following table summarizes (in thousands) the available-for-sale securities with unrealized losses as of December 31, 2021. The unrealized losses are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months		12 Months or More		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Debentures						
U.S. government-guaranteed obligations	$ 114,748	$ 460	$ —	$ —	$ 114,748	$ 460
GSE debentures	587,176	22	128,431	4,390	715,607	4,412
GSE commercial MBS	68,575	3,008	13,406	99	81,981	3,107
Total	$ 770,499	$ 3,490	$ 141,837	$ 4,489	$ 912,336	$ 7,979

Redemption Terms. The amortized cost and estimated fair value of available-for-sale securities by contractual maturity at June 30, 2022 and December 31, 2021 are presented below (in thousands).

	June 30, 2022		December 31, 2021	
Maturity	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Debentures				
Due in one year or less	$ 67,470	$ 67,728	$ 1,209,330	$ 1,209,339
Due after one year through five years	3,230,521	3,279,686	3,225,065	3,286,653
Due after five years through ten years	237,416	243,669	489,523	506,310
	3,535,407	3,591,083	4,923,918	5,002,302
GSE commercial MBS	9,952,959	10,041,234	10,123,054	10,285,730
Total	$ 13,488,366	$ 13,632,317	$ 15,046,972	$ 15,288,032

Interest Rate Payment Terms. At June 30, 2022 and December 31, 2021, all of the Bank's available-for-sale securities were fixed rate securities, substantially all of which were swapped to a variable rate.

Sales of Securities. There were no sales of available-for-sale securities during the six months ended June 30, 2022 or 2021.

Note 5—Held-to-Maturity Securities

Major Security Types. Held-to-maturity securities as of June 30, 2022 were as follows (in thousands):

	Amortized Cost	Non-credit OTTI Recorded in Accumulated Other Comprehensive Income (Loss)	Carrying Value	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Estimated Fair Value
Debentures						
U.S. government-guaranteed obligations	$ 1,496	$ —	$ 1,496	$ 1	$ —	$ 1,497
Mortgage-backed securities						
GSE residential MBS	418,016	—	418,016	1,562	1,112	418,466
Non-agency residential MBS	31,719	3,753	27,966	7,179	891	34,254
	449,735	3,753	445,982	8,741	2,003	452,720
Total	$ 451,231	$ 3,753	$ 447,478	$ 8,742	$ 2,003	$ 454,217

Held-to-maturity securities as of December 31, 2021 were as follows (in thousands):

	Amortized Cost	Non-credit OTTI Recorded in Accumulated Other Comprehensive Income (Loss)	Carrying Value	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Estimated Fair Value
Debentures						
U.S. government-guaranteed obligations	$ 2,372	$ —	$ 2,372	$ 2	$ —	$ 2,374
State housing agency obligation	74,919	—	74,919	89	—	75,008
	77,291	—	77,291	91	—	77,382
Mortgage-backed securities						
GSE residential MBS	484,110	—	484,110	4,998	3	489,105
Non-agency residential MBS	36,639	4,485	32,154	8,249	538	39,865
	520,749	4,485	516,264	13,247	541	528,970
Total	$ 598,040	$ 4,485	$ 593,555	$ 13,338	$ 541	$ 606,352

In the tables above, amortized cost includes premiums, discounts and the credit portion of other-than-temporary impairments ("OTTI") recorded prior to January 1, 2020. Amortized cost excludes accrued interest of $225,000 and $146,000 at June 30, 2022 and December 31, 2021, respectively.

Redemption Terms. The amortized cost, carrying value and estimated fair value of held-to-maturity securities by contractual maturity at June 30, 2022 and December 31, 2021 are presented below (in thousands). The expected maturities of some debentures could differ from the contractual maturities presented because issuers may have the right to call such debentures prior to their final stated maturities.

	June 30, 2022			December 31, 2021		
Maturity	Amortized Cost	Carrying Value	Estimated Fair Value	Amortized Cost	Carrying Value	Estimated Fair Value
Debentures						
Due in one year or less	$ —	$ —	$ —	$ 500	$ 500	$ 500
Due after one year through five years	1,496	1,496	1,497	1,872	1,872	1,874
Due after ten years	—	—	—	74,919	74,919	75,008
	1,496	1,496	1,497	77,291	77,291	77,382
Mortgage-backed securities	449,735	445,982	452,720	520,749	516,264	528,970
Total	$ 451,231	$ 447,478	$ 454,217	$ 598,040	$ 593,555	$ 606,352

The amortized cost of the Bank's mortgage-backed securities classified as held-to-maturity includes net purchase discounts of $963,000 and $1,003,000 at June 30, 2022 and December 31, 2021, respectively.

Interest Rate Payment Terms. The following table provides interest rate payment terms for investment securities classified as held-to-maturity at June 30, 2022 and December 31, 2021 (in thousands):

	June 30, 2022	December 31, 2021
Amortized cost of variable-rate held-to-maturity securities other than MBS	$ 1,496	$ 77,291
Amortized cost of held-to-maturity MBS		
Fixed-rate pass-through securities	—	2
Variable-rate collateralized mortgage obligations	449,735	520,747
	449,735	520,749
Total	$ 451,231	$ 598,040

All of the Bank's variable-rate collateralized mortgage obligations classified as held-to-maturity securities have coupon rates that are subject to interest rate caps, none of which were reached during 2021 or the six months ended June 30, 2022.

Note 6—Advances

Redemption Terms. At June 30, 2022 and December 31, 2021, the Bank had advances outstanding at interest rates ranging from 0.16 percent to 8.27 percent and 0.11 percent to 8.27 percent, respectively, as summarized below (dollars in thousands).

	June 30, 2022		December 31, 2021	
Contractual Maturity	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Overdrawn demand deposit accounts	$ 88,723	1.85 %	$ —	— %
Due in one year or less	15,768,570	1.60	7,642,760	0.39
Due after one year through two years	1,131,622	2.21	1,028,212	1.84
Due after two years through three years	1,628,046	1.45	1,335,606	1.63
Due after three years through four years	1,416,769	1.46	1,649,603	0.80
Due after four years through five years	5,074,722	2.50	968,470	0.67
Due after five years through fifteen years	11,424,597	1.61	11,752,610	0.90
Due after fifteen years	33,357	2.35	35,061	2.35
Total par value	36,566,406	1.74 %	24,412,322	0.81 %
Deferred net prepayment fees	(4,992)		(5,897)	
Commitment fees	(36)		(38)	
Hedging adjustments	(185,616)		231,077	
Total	$ 36,375,762		$ 24,637,464	

Advances presented in the table above exclude accrued interest of $39,207,000 and $16,655,000 at June 30, 2022 and December 31, 2021, respectively.

The Bank offers advances to members that may be prepaid on specified dates without the member incurring prepayment or termination fees (prepayable and callable advances). The prepayment of other advances requires the payment of a fee to the Bank (prepayment fee) if necessary to make the Bank financially indifferent to the prepayment of the advance. At June 30, 2022 and December 31, 2021, the Bank had aggregate prepayable and callable advances totaling $5,974,419,000 and $5,279,719,000, respectively.

The following table summarizes advances outstanding at June 30, 2022 and December 31, 2021, by the earlier of contractual maturity or next call date, or the first date on which prepayable advances can be repaid without a prepayment fee (in thousands):

Contractual Maturity or Next Call Date	June 30, 2022	December 31, 2021
Overdrawn demand deposit accounts	$ 88,723	$ —
Due in one year or less	21,633,108	12,779,409
Due after one year through two years	1,030,395	1,001,667
Due after two years through three years	1,157,319	1,093,031
Due after three years through four years	383,030	1,004,319
Due after four years through five years	4,741,935	345,975
Due after five years	7,531,896	8,187,921
Total par value	$ 36,566,406	$ 24,412,322

The Bank also offers putable advances. With a putable advance, the Bank purchases a put option from the member that allows the Bank to terminate the fixed-rate advance on specified dates and offer, subject to certain conditions, replacement funding at prevailing market rates. At June 30, 2022 and December 31, 2021, the Bank had putable advances outstanding totaling $6,968,800,000 and $7,345,800,000, respectively.

The following table summarizes advances outstanding at June 30, 2022 and December 31, 2021, by the earlier of contractual maturity or next possible put date (in thousands):

Contractual Maturity or Next Put Date	June 30, 2022	December 31, 2021
Overdrawn demand deposit accounts	$ 88,723	$ —
Due in one year or less	21,142,370	14,878,560
Due after one year through two years	1,345,422	1,112,012
Due after two years through three years	2,093,046	1,291,606
Due after three years through four years	1,416,769	1,594,603
Due after four years through five years	5,499,722	968,470
Due after five years	4,980,354	4,567,071
Total par value	$ 36,566,406	$ 24,412,322

Interest Rate Payment Terms. The following table provides interest rate payment terms for advances outstanding at June 30, 2022 and December 31, 2021 (in thousands):

	June 30, 2022	December 31, 2021
Fixed-rate		
Due in one year or less	$ 15,742,070	$ 7,582,790
Due after one year	14,875,784	11,037,441
Total fixed-rate	30,617,854	18,620,231
Variable-rate		
Due in one year or less	115,223	59,970
Due after one year	5,833,329	5,732,121
Total variable-rate	5,948,552	5,792,091
Total par value	$ 36,566,406	$ 24,412,322

At June 30, 2022 and December 31, 2021, 44 percent and 54 percent, respectively, of the Bank's fixed-rate advances were swapped to a variable rate.

Prepayment Fees. When a member/borrower prepays an advance, the Bank could suffer lower future income if the principal portion of the prepaid advance is reinvested in lower-yielding assets. To protect against this risk, the Bank generally charges a prepayment fee that makes it financially indifferent to a borrower's decision to prepay an advance. The Bank records prepayment fees received from members/borrowers on prepaid advances net of any associated hedging adjustments on those advances. These fees are reflected as interest income in the statements of income either immediately (as prepayment fees on advances) or over time (as interest income on advances) as further described below. In cases in which the Bank funds a new advance concurrent with or within a short period of time before or after the prepayment of an existing advance and the advance meets the accounting criteria to qualify as a modification of the prepaid advance, the net prepayment fee on the prepaid advance is deferred, recorded in the basis of the modified advance, and amortized into interest income on advances over the life of the modified advance using the level-yield method. During the three and six months ended June 30, 2022, gross advance prepayment fees received from members/borrowers were $4,791,000, and $5,730,000, respectively, none of which were deferred. During the three and six months ended June 30, 2021, gross advance prepayment fees received from members/ borrowers were $2,699,000 and $5,123,000, respectively, of which $653,000 were deferred.

The Bank also offers advances that include a symmetrical prepayment feature which allows a member to prepay an advance at the lower of par value or fair value plus a make-whole amount payable to the Bank. During the six months ended June 30, 2022, three symmetrical prepayment advances with an aggregate par value of $15,000,000 were prepaid. The total difference by which the par values of these advances exceeded their fair values, less the make-whole amounts, totaled $527,000 and was recorded in prepayment fees on the advances, net of the associated hedging adjustments on the advances. There were no prepayments of symmetrical prepayment advances during the three months ended June 30, 2022 or the six months ended June 30, 2021.

Note 7—Mortgage Loans Held for Portfolio

Mortgage loans held for portfolio represent held-for-investment loans acquired through the Mortgage Partnership Finance® ("MPF"®) program. The following table presents information as of June 30, 2022 and December 31, 2021 for mortgage loans held for portfolio (in thousands):

	June 30, 2022	December 31, 2021
Fixed-rate medium-term* single-family mortgages	$ 120,783	$ 124,532
Fixed-rate long-term single-family mortgages	3,808,582	3,298,356
Premiums	64,947	66,643
Discounts	(9,811)	(1,324)
Deferred net derivative gains associated with mortgage delivery commitments	4,462	6,182
Total mortgage loans held for portfolio	3,988,963	3,494,389
Less: allowance for credit losses on mortgage loans	(3,091)	(3,124)
Total mortgage loans held for portfolio, net of allowance for credit losses	$ 3,985,872	$ 3,491,265

*Medium-term is defined as an original term of 15 years or less.

Mortgage loans presented in the table above exclude accrued interest receivable of $18,062,000 and $14,345,000 at June 30, 2022 and December 31, 2021, respectively.

The unpaid principal balance of mortgage loans held for portfolio at June 30, 2022 and December 31, 2021 was comprised of conventional loans totaling $3,921,892,000 and $3,414,463,000, respectively, and government-guaranteed/insured loans totaling $7,473,000 and $8,425,000, respectively.

Note 8—Accrued Interest Receivable

The components of accrued interest receivable as of June 30, 2022 and December 31, 2021 were as follows (in thousands):

	June 30, 2022	December 31, 2021
Advances	$ 39,207	$ 16,655
Investment securities		
Trading	1,891	962
Available-for-sale	49,469	59,393
Held-to-maturity	225	146
Mortgage loans held for portfolio	18,062	14,345
Interest-bearing deposits	598	56
Securities purchased under agreements to resell	612	15
Federal funds sold	278	9
Total	$ 110,342	$ 91,581

Note 9—Allowance for Credit Losses

As of the balance sheet date, an allowance for credit losses is separately established, if necessary, for each of the Bank's financial instruments carried at amortized cost, its available-for-sale securities and its off-balance sheet credit exposures. Expected credit losses on these financial instruments are recorded through an allowance for credit losses. The allowance for credit losses is the amount necessary to reduce the amortized cost of financial instruments carried at amortized cost to the net amount expected to be collected and the amortized cost of available-for-sale securities to the higher of the security's fair value or the present value of the cash flows expected to be collected from the security. To the extent necessary, an allowance for credit losses for off-balance sheet credit exposures is recorded as a liability.

Short-Term Investments. The Bank invests in overnight interest-bearing deposits, overnight Federal Funds sold and overnight securities purchased under agreements to resell. These investments provide short-term liquidity and are carried at amortized cost. All investments in Federal Funds sold, interest-bearing deposits and securities purchased under agreements to resell that were outstanding at June 30, 2022 were repaid according to their contractual terms. Accordingly, no allowance for credit losses was recorded on these assets at June 30, 2022.

Long-Term Investments. The Bank evaluates its available-for-sale securities for impairment by comparing the security's fair value to its amortized cost. Impairment exists when the fair value of the investment is less than its amortized cost (i.e., when the security is in an unrealized loss position). The Bank evaluates each impaired security to determine whether the impairment is due to credit losses. Held-to-maturity securities are evaluated for impairment on a pooled basis, unless an individual assessment is deemed necessary because the securities do not contain similar risk characteristics.

At June 30, 2022, the gross unrealized losses on the Bank's available-for-sale securities were $12,253,000, all of which related to securities that are issued and guaranteed by GSEs. At June 30, 2022, the gross unrealized losses on the Bank's held-to-maturity securities (computed as the difference between the amortized cost and the fair value of the securities) were $2,540,000, of which $1,428,000 was attributable to its holdings of non-agency (i.e., private-label) residential MBS ("RMBS") and $1,112,000 was attributable to securities that are issued and guaranteed by GSEs.

Government-Guaranteed and GSE Investments. As of June 30, 2022, the U.S. government and the issuers of the Bank's holdings of GSE debentures, GSE commercial MBS ("CMBS") and GSE RMBS were rated triple-A by Moody's Investors Service ("Moody's") and AA+ by S&P Global Ratings ("S&P"). Through June 30, 2022, the Bank has not experienced any defaults on its government-guaranteed debentures or GSE RMBS and it has experienced only one default on its GSE CMBS, which default occurred in 2020. In the event of a default, the guarantor is required to repurchase the security at its par value and thus the Bank's exposure is limited to the amount of any unamortized premiums and/or positive fair value hedge accounting adjustments included in the amortized cost basis of the investment. Based upon the Bank's assessment of the creditworthiness of the issuers of the GSE debentures that were in an unrealized loss position at June 30, 2022 and the credit ratings assigned by Moody's and S&P, the Bank expects that these debentures would not be settled at an amount less than the Bank's amortized cost bases in the investments. In addition, based upon the Bank's assessment of the strength of the GSEs' guarantees of the Bank's holdings of GSE CMBS and GSE RMBS and the credit ratings assigned by Moody's and S&P, the Bank expects that the amounts to be collected on its holdings of GSE MBS will not be less than the Bank's amortized cost bases in these investments (or, in the rare circumstance of a default, the amount to be collected would not be expected to be significantly less than the Bank's amortized cost basis in the investment). The Bank does not intend to sell the investments and it is not more likely than not that the Bank will be required to sell the investments before recovery of their amortized cost bases. Because the current market value deficits associated with the Bank's available-for-sale securities are not attributable to credit quality, and because the amount expected to be collected on its held-to-maturity securities is not less than the amortized cost of these investments, the Bank has determined that the credit losses on its GSE investments, if any, would be insignificant and, therefore, the Bank did not provide an allowance for credit losses on these investments at June 30, 2022.

Non-Agency RMBS. As of June 30, 2022, 5 of the Bank's non-agency RMBS with an aggregate amortized cost of $6,697,000 were rated investment grade (i.e., triple-B or higher by Moody's and/or S&P), 16 non-agency RMBS with an aggregate amortized cost of $24,984,000 were rated below investment grade and 1 non-agency RMBS with an amortized cost of $38,000 was unrated. In periods prior to 2017, 15 of the non-agency RMBS that were rated below investment grade at June 30, 2022 had been determined to be other-than-temporarily impaired. At June 30, 2022 and December 31, 2021, the amortized cost of the Bank's non-agency RMBS included credit losses of $5,876,000 and $5,991,000, respectively, on these previously impaired securities.

Because the ultimate receipt of contractual payments on the Bank's non-agency RMBS will depend upon the credit and prepayment performance of the underlying loans and the credit enhancements for the senior securities owned by the Bank, the Bank monitors these investments in an effort to determine whether the credit enhancement associated with each security is sufficient to protect against potential losses of principal and interest on the underlying mortgage loans. The credit enhancement for each of the Bank's non-agency RMBS is provided by a senior/subordinate structure, and none of the securities owned by the Bank are insured by third-party bond insurers. More specifically, each of the Bank's non-agency RMBS represents a single security class within a securitization that has multiple classes of securities. Each security class has a distinct claim on the cash flows from the underlying mortgage loans, with the subordinate securities having a junior claim relative to the more senior securities. The Bank's non-agency RMBS have a senior claim on the cash flows from the underlying mortgage loans.

At June 30, 2022, the Bank considered the potential impact that current economic and housing market conditions could have on the collectibility of these securities to determine whether it expected to incur any additional credit losses. Based on the payment status of the securities and the considerations regarding the potential impact that recent changes in economic and housing market conditions could have on the securities' cash flows, the Bank determined it is likely that it will fully recover the remaining amortized cost bases of all of its non-agency RMBS. Because the Bank does not intend to sell the investments and it is not more likely than not that the Bank will be required to sell the investments before recovery of their remaining amortized cost bases, no allowance for credit losses on the Bank's non-agency RMBS was deemed to be necessary at June 30, 2022.

Standby Bond Purchase Agreements. The Bank has entered into standby bond purchase agreements with a state housing finance agency within its district whereby, for a fee, the Bank agrees to serve as a standby liquidity provider. If required, the Bank will purchase and hold the housing finance agency's bonds until the designated marketing agent can find a suitable investor or the housing finance agency repurchases the bonds according to a schedule established by the agreement. To date, the Bank has never been required to purchase a bond under its standby bond purchase agreements. In addition, the agreements contain provisions that allow the Bank to terminate the agreement if the housing finance agency's credit rating, or the rating of the bonds underlying the agreements, decline to a level below investment grade. Based on these provisions, the high credit quality of the housing finance agency and the unlikelihood that the Bank will be required to repurchase the bonds, an allowance for credit losses on standby bond purchase agreements was not considered necessary at June 30, 2022.

Financing Receivables. A portfolio segment is defined as the level at which an entity develops and documents a systematic method for determining its allowance for credit losses on financing receivables which, for the Bank, includes off-balance sheet credit exposures to members. The Bank has developed and documented a systematic methodology for determining an allowance for credit losses for the following portfolio segments: (1) advances and other extensions of credit to members/borrowers, collectively referred to as "extensions of credit to members"; (2) government-guaranteed/insured mortgage loans held for portfolio; and (3) conventional mortgage loans held for portfolio.

Classes of financing receivables are generally a disaggregation of a portfolio segment and are determined on the basis of their initial measurement attribute, the risk characteristics of the financing receivable and an entity's method for monitoring and assessing credit risk. Because the credit risk arising from the Bank's financing receivables is assessed and measured at the portfolio segment level, the Bank does not have separate classes of financing receivables within each of its portfolio segments.

Advances and Other Extensions of Credit to Members. In accordance with federal statutes, including the Federal Home Loan Bank Act of 1932, as amended (the "FHLB Act"), the Bank lends to financial institutions within its five-state district that are involved in housing finance. The FHLB Act requires the Bank to obtain and maintain sufficient collateral for advances and other extensions of credit to protect against losses. The Bank makes advances and otherwise extends credit only against eligible collateral, as defined by regulation. To ensure the value of collateral pledged to the Bank is sufficient to secure its advances and other extensions of credit, the Bank applies various haircuts, or discounts, to the collateral to determine the value against which borrowers may borrow. As additional security, the Bank has a statutory lien on each borrower's capital stock in the Bank. The Bank has procedures in place for validating the reasonableness of its collateral valuations. In addition, collateral verifications and on-site reviews are performed based on the risk profile of the borrower.

On at least a quarterly basis, the Bank evaluates all outstanding extensions of credit to members/borrowers for potential credit losses. These evaluations include a review of: (1) the amount, type and performance of collateral available to secure the outstanding obligations; (2) metrics that may be indicative of changes in the financial condition and general creditworthiness of the member/borrower; and (3) the payment status of the obligations. Any outstanding extensions of credit that exhibit a potential credit weakness that could jeopardize the full collection of the outstanding obligations would be classified as substandard, doubtful or loss. The Bank did not have any advances or other extensions of credit to members/borrowers that were classified as substandard, doubtful or loss at June 30, 2022 or December 31, 2021.

The Bank considers the amount, type and performance of collateral to be the primary indicator of credit quality with respect to its extensions of credit to members/borrowers. At June 30, 2022 and December 31, 2021, the Bank had rights to collateral on a borrower-by-borrower basis with an estimated value in excess of each borrower's outstanding extensions of credit.

The Bank continues to evaluate and, as necessary, modify its credit extension and collateral policies based on market conditions. At June 30, 2022 and December 31, 2021, the Bank did not have any advances that were past due or on nonaccrual status. There have been no TDRs related to advances.

The Bank has never experienced a credit loss on an advance or any other extension of credit to a member/borrower and, based on its credit extension and collateral policies, management currently does not anticipate any credit losses on its extensions of credit to members/borrowers. Accordingly, the Bank has not provided any allowance for credit losses on advances, nor has it recorded any liabilities to reflect an allowance for credit losses related to its off-balance sheet credit exposures to members.

Mortgage Loans — Government-guaranteed or government-insured. The Bank's government-guaranteed or government-insured fixed-rate mortgage loans are guaranteed or insured by the Federal Housing Administration or the Department of Veterans Affairs and were acquired through the MPF program (as more fully described in the Bank's 2021 10-K) in periods prior to 2004. Any losses from these loans are expected to be recovered from those entities. Any losses from these loans that are not recovered from those entities are absorbed by the servicers. Therefore, the Bank has not established an allowance for credit losses on government-guaranteed or government-insured mortgage loans. Government-guaranteed or government-insured loans are not placed on nonaccrual status.

Mortgage Loans — Conventional Mortgage Loans. The Bank's conventional mortgage loans have also been acquired through the MPF program. The allowance for credit losses on conventional mortgage loans is determined by an analysis that includes consideration of various data such as past performance, current performance, projected performance, loan portfolio characteristics, collateral-related characteristics, prevailing economic conditions and reasonable and supportable forecasts of expected economic conditions. The allowance for credit losses on conventional mortgage loans also factors in the credit enhancement under the MPF program. The Bank does not record an allowance for credit losses that are expected to be recovered from the credit enhancements.

The Bank places a conventional mortgage loan on nonaccrual status when the collection of the contractual principal or interest is 90 days or more past due. When a mortgage loan is placed on nonaccrual status, accrued but uncollected interest is reversed against interest income. The Bank records cash payments received on nonaccrual loans as a reduction of principal. A loan on nonaccrual status is restored to accrual status when none of its contractual principal and interest is due and unpaid, and the Bank expects repayment of the remaining contractual interest and principal. At June 30, 2022 and December 31, 2021, interest payments received on nonaccrual loans and recorded as a reduction of principal totaled $4,214,000 and $3,912,000, respectively.

Collateral-dependent mortgage loans that are 90 days or more past due are evaluated for credit losses on an individual basis based on the fair value of the underlying mortgaged property less estimated selling costs. Loans are considered collateral-dependent if repayment is expected to be provided solely by the sale of the underlying property; that is, there is no other available and reliable source of repayment.

The Bank evaluates whether to record a charge-off on a conventional mortgage loan when the loan becomes 180 days or more past due or upon the occurrence of a confirming event, whichever occurs first. Confirming events include, but are not limited to, the occurrence of foreclosure or notification of a claim against any of the credit enhancements. A charge-off is recorded if the amount expected to be collected on the loan is less than its amortized cost.

The Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") provided temporary relief from the accounting and reporting requirements for certain loan modifications related to COVID-19 that would otherwise have been categorized as a TDR. Eligible mortgage loans that were current under the modified terms of the loan agreements were returned to accrual status as long as the Bank expected repayment of the remaining contractual principal and interest. The Bank entered into qualifying loan modifications that allowed the borrowers to defer past due principal and interest payments until the earlier of the date on which the loan is prepaid or the end of the loan term. As of June 30, 2022, the aggregate outstanding unpaid principal balance of loans that would have been considered TDRs absent the relief provided by the CARES Act was approximately $19,331,000. The total amount of principal and interest deferred on these loans was insignificant.

The servicers of the Bank's mortgage loans may grant a forbearance period to borrowers who request forbearance as a result of difficulties relating to COVID-19 regardless of the status of the loan at the time of the request. During the forbearance period, the Bank accounts for these loans in the same manner as it accounts for any other past due loans whether the forbearance arrangement is formal or informal. The accrual status of mortgage loans in forbearance is determined by the past due status of the loan as the legal terms of the loan agreement remain unchanged during this period.

The Bank considers the key credit quality indicator for conventional mortgage loans to be the payment status of each loan. The table below summarizes the amortized cost (excluding accrued interest receivable) by payment status for mortgage loans at June 30, 2022 and December 31, 2021 (dollars in thousands).

	June 30, 2022				
	Conventional Loans Originated Prior to 2018	Conventional Loans Originated in 2018-2022	Total Conventional Loans	Government-Guaranteed/ Insured Loans (1)	Total
Mortgage loans:					
30-59 days delinquent	$ 3,870	$ 29,860	$ 33,730	$ 153	$ 33,883
60-89 days delinquent	1,095	3,604	4,699	—	4,699
90 days or more delinquent	3,891	17,015	20,906	76	20,982
Total past due	8,856	50,479	59,335	229	59,564
Total current loans	170,646	3,751,484	3,922,130	7,269	3,929,399
Total mortgage loans	$ 179,502	$ 3,801,963	$ 3,981,465	$ 7,498	$ 3,988,963

	December 31, 2021				
	Conventional Loans Originated Prior to 2017	Conventional Loans Originated in 2017-2021	Total Conventional Loans	Government-Guaranteed/ Insured Loans (1)	Total
Mortgage loans:					
30-59 days delinquent	$ 605	$ 30,597	$ 31,202	$ 316	$ 31,518
60-89 days delinquent	417	3,622	4,039	64	4,103
90 days or more delinquent	1,005	34,907	35,912	124	36,036
Total past due	2,027	69,126	71,153	504	71,657
Total current loans	23,797	3,390,984	3,414,781	7,951	3,422,732
Total mortgage loans	$ 25,824	$ 3,460,110	$ 3,485,934	$ 8,455	$ 3,494,389

(1) All of the Bank's government-guaranteed/insured loans were originated in years prior to 2004.

The table below summarizes other delinquency statistics for mortgage loans at June 30, 2022 and December 31, 2021 (dollars in thousands).

	June 30, 2022			December 31, 2021		
	Total Conventional Loans	Government-Guaranteed/ Insured Loans	Total	Total Conventional Loans	Government-Guaranteed/ Insured Loans	Total
In process of foreclosure (1)	$ 7,069	$ —	$ 7,069	$ 1,226	$ 108	$ 1,334
Serious delinquency rate (2)	0.5 %	1.0 %	0.5 %	1.0 %	1.5 %	1.0 %
Past due 90 days or more and still accruing interest (3)	$ —	$ 76	$ 76	$ —	$ 124	$ 124
Nonaccrual loans (4)	$ 26,038	$ —	$ 26,038	$ 51,318	$ —	$ 51,318
Troubled debt restructurings	$ 3,747	$ —	$ 3,747	$ 1,066	$ —	$ 1,066

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

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

(3) Only government-guaranteed/insured mortgage loans continue to accrue interest after they become 90 days or more past due.`

(4) The Bank did not have any specific allowance for credit losses on nonaccrual loans at June 30, 2022.

As of June 30, 2022, approximately $6,660,000 (unpaid principal balance) of past due conventional loans were in forbearance as a result of COVID-19. Approximately $1,566,000 were 30 to 59 days past due, $756,000 were 60 to 89 days past due, and $4,338,000 were 90 days or more past due and in nonaccrual status. As of December 31, 2021, approximately $11,759,000 (unpaid principal balance) of past due conventional loans were in forbearance as a result of COVID-19. Approximately $632,000 were 30 to 59 days past due, $1,761,000 were 60 to 89 days past due, and $9,366,000 were 90 days or more past due and in nonaccrual status. At June 30, 2022, the Bank's other assets included $30,000 of real estate owned. The Bank did not have any real estate owned at December 31, 2021.

The Bank individually reviews each seriously delinquent mortgage loan and each TDR for credit losses. At June 30, 2022 and December 31, 2021, the estimated value of the collateral securing each of these loans, plus the estimated amount that can be recovered through credit enhancements and mortgage insurance, if any, exceeded the amortized cost basis of the loans. Therefore, no allowance for credit losses was established for any of the individually reviewed mortgage loans. The remaining conventional mortgage loans were evaluated for credit losses on a pool basis. Based upon the current and past performance of these loans, current economic conditions, reasonable and supportable forecasts of expected economic conditions and expected recoveries from credit enhancements, the Bank's best estimate of the expected credit losses in its conventional mortgage loan portfolio at June 30, 2022 was $3,091,000.

The following table presents the activity in the allowance for credit losses on conventional mortgage loans held for portfolio during the six months ended June 30, 2022 and 2021 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Balance, beginning of period	$ 3,802	$ 3,632	$ 3,124	$ 3,925
Provision (reversal) for credit losses	(711)	(145)	(33)	(438)
Balance, end of period	$ 3,091	$ 3,487	$ 3,091	$ 3,487

Note 10—Consolidated Obligations

Consolidated obligations are the joint and several obligations of the FHLBanks and consist of consolidated obligation bonds and discount notes. Consolidated obligations are backed only by the financial resources of the 11 FHLBanks. Consolidated obligations are not obligations of, nor are they guaranteed by, the U.S. government. The FHLBanks issue consolidated obligations through the Office of Finance as their agent. In connection with each debt issuance, one or more of the FHLBanks specifies the amount of debt it wants issued on its behalf; the Bank receives the proceeds of only the debt issued on its behalf and records on its statements of condition only that portion of the consolidated obligations for which it has received the proceeds. Consolidated obligation bonds are issued primarily to raise intermediate- and long-term funds for the FHLBanks and are not subject to any statutory or regulatory limits on maturity. Consolidated obligation discount notes are issued to raise short-term funds and have maturities of one year or less. These notes are issued at a price that is less than their face amount and are redeemed at par value when they mature. For additional information regarding the FHLBanks' joint and several liability on consolidated obligations, see Note 17.

The par amounts of the 11 FHLBanks' outstanding consolidated obligations, including consolidated obligations held as investments by other FHLBanks, were approximately $882 billion and $653 billion at June 30, 2022 and December 31, 2021, respectively. The Bank was the primary obligor on $72.3 billion and $55.8 billion (at par value), respectively, of these consolidated obligations.

Interest Rate Payment Terms. The following table summarizes the Bank's consolidated obligation bonds outstanding by interest rate payment terms at June 30, 2022 and December 31, 2021 (in thousands, at par value).

	June 30, 2022	December 31, 2021
Fixed-rate	$ 27,930,995	$ 30,004,790
Variable-rate SOFR-indexed	7,867,000	9,946,625
Step-up	6,836,750	4,822,000
Total par value	$ 42,634,745	$ 44,773,415

At June 30, 2022 and December 31, 2021, 90 percent and 69 percent, respectively, of the Bank's fixed-rate consolidated obligation bonds (including step-up bonds) were swapped to a variable rate.

Redemption Terms. The following is a summary of the Bank's consolidated obligation bonds outstanding at June 30, 2022 and December 31, 2021, by contractual maturity (dollars in thousands):

	June 30, 2022		December 31, 2021	
Contractual Maturity	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Due in one year or less	$ 10,902,610	1.67 %	$ 19,906,725	0.28 %
Due after one year through two years	3,488,795	1.31	2,071,195	1.64
Due after two years through three years	7,629,685	1.18	5,156,770	0.64
Due after three years through four years	7,707,000	0.93	2,325,975	0.77
Due after four years through five years	7,480,610	1.50	8,646,750	0.82
Due after five years	5,426,045	1.65	6,666,000	1.21
Total par value	42,634,745	1.39 %	44,773,415	0.65 %
Premiums	19,492		16,405	
Discounts	(1,337)		(419)	
Debt issuance costs	(2,218)		(1,902)	
Hedging adjustments	(1,706,594)		(273,279)	
Total	$ 40,944,088		$ 44,514,220	

At June 30, 2022 and December 31, 2021, the Bank's consolidated obligation bonds outstanding included the following (in thousands, at par value):

	June 30, 2022	December 31, 2021
Non-callable bonds	$ 12,971,200	$ 22,068,620
Callable bonds	29,663,545	22,704,795
Total par value	$ 42,634,745	$ 44,773,415

The following table summarizes the Bank's consolidated obligation bonds outstanding at June 30, 2022 and December 31, 2021, by the earlier of contractual maturity or next possible call date (in thousands, at par value):

Contractual Maturity or Next Call Date	June 30, 2022	December 31, 2021
Due in one year or less	$ 38,515,155	$ 41,026,520
Due after one year through two years	1,919,500	2,911,695
Due after two years through three years	426,435	524,975
Due after three years through four years	546,000	98,475
Due after four years through five years	817,610	186,750
Due after five years	410,045	25,000
Total par value	$ 42,634,745	$ 44,773,415

Discount Notes. At June 30, 2022 and December 31, 2021, the Bank's consolidated obligation discount notes, all of which are due within one year, were as follows (dollars in thousands):

	Book Value	Par Value	Weighted Average Implied Interest Rate
June 30, 2022	$ 29,622,896	$ 29,699,591	1.15 %
December 31, 2021	$ 11,003,026	$ 11,004,433	0.04 %

Note 11—Affordable Housing Program ("AHP")

The following table summarizes the changes in the Bank's AHP liability during the six months ended June 30, 2022 and 2021 (in thousands):

	Six Months Ended June 30,	
	2022	2021
Balance, beginning of period	$ 60,133	$ 63,153
AHP assessment	11,857	8,434
Grants funded, net of recaptured amounts	(12,851)	(12,361)
Balance, end of period	$ 59,139	$ 59,226

Note 12—Assets and Liabilities Subject to Offsetting

The Bank enters into derivatives and securities purchased under agreements to resell that are subject to enforceable master netting agreements or similar arrangements. For purposes of reporting derivative assets and derivative liabilities, the Bank offsets the fair value amounts recognized for derivative instruments (including the right to reclaim cash collateral and the obligation to return cash collateral) where a legally enforceable right of setoff exists. The Bank did not have any liabilities that were eligible to offset its securities purchased under agreements to resell (i.e., securities sold under agreements to repurchase) as of June 30, 2022 or December 31, 2021.

The Bank's derivative transactions are executed either bilaterally or, if required, cleared through a third-party central clearinghouse. The Bank has entered into master agreements with each of its bilateral derivative counterparties that provide for the netting of all transactions with each of these counterparties. Under its master agreements with its non-member bilateral derivative counterparties, collateral is delivered (or returned) daily when certain thresholds (ranging from $50,000 to $500,000) are met. The Bank offsets the fair value amounts recognized for bilaterally traded derivatives executed with the same counterparty, including any cash collateral remitted to or received from the counterparty. When entering into derivative transactions with its members, the Bank requires the member to post eligible collateral in an amount equal to the sum of the net market value of the member's derivative transactions with the Bank (if the value is positive to the Bank) plus a percentage of the notional amount of any interest rate swaps, with market values determined on at least a monthly basis. Eligible collateral for derivative transactions with members consists of collateral that is eligible to secure advances and other obligations under the member's Advances and Security Agreement with the Bank. The Bank is not required to pledge collateral to its members to secure derivative positions.

For cleared derivatives, all transactions with each clearing member of each clearinghouse are netted pursuant to legally enforceable setoff rights. Cleared derivatives are subject to initial and variation margin requirements established by the clearinghouse and its clearing members. Unlike bilateral derivatives, variation margin payments on cleared derivatives are legally characterized as settlements on the contracts. Initial and variation margin is typically delivered/paid (or returned/received) daily and is not subject to any maximum unsecured thresholds. The Bank offsets the fair value amounts recognized for cleared derivatives transacted with each clearing member of each clearinghouse (which fair value amounts include variation margin paid or received) and any cash collateral pledged or received.

The following table presents derivative instruments and securities purchased under agreements to resell with the legal right of offset, including the related collateral received from or pledged to counterparties as of June 30, 2022 and December 31, 2021 (in thousands). For daily settled derivative contracts, the variation margin payments/receipts are included in the gross amounts of derivative assets and liabilities.

	Gross Amounts of Recognized Financial Instruments	Gross Amounts Offset in the Statement of Condition	Net Amounts Presented in the Statement of Condition	Collateral Not Offset in the Statement of Condition [1]	Net Unsecured Amount
June 30, 2022					
Assets					
Derivatives					
Bilateral derivatives	$ 43,004	$ 78,334	$ 121,338	$ (975) [2]	$ 120,363
Cleared derivatives	30,826	(30,064)	762	—	762
Total derivatives	73,830	48,270	122,100	(975)	121,125
Securities purchased under agreements to resell	14,200,000	—	14,200,000	(14,200,000)	—
Total assets	$ 14,273,830	$ 48,270	$ 14,322,100	$ (14,200,975)	$ 121,125
Liabilities					
Derivatives					
Bilateral derivatives	$ 1,662,601	$ (1,656,465)	$ 6,136	$ —	$ 6,136
Cleared derivatives	126,759	(30,022)	96,737	(96,737) [3]	—
Total liabilities	$ 1,789,360	$ (1,686,487)	$ 102,873	$ (96,737)	$ 6,136
December 31, 2021					
Assets					
Derivatives					
Bilateral derivatives	$ 22,346	$ (15,270)	$ 7,076	$ (3,834) [2]	$ 3,242
Cleared derivatives	2,853	(2,852)	1	—	1
Total derivatives	25,199	(18,122)	7,077	(3,834)	3,243
Securities purchased under agreements to resell	10,650,000	—	10,650,000	(10,650,000)	—
Total assets	$ 10,675,199	$ (18,122)	$ 10,657,077	$ (10,653,834)	$ 3,243
Liabilities					
Derivatives					
Bilateral derivatives	$ 474,106	$ (464,683)	$ 9,423	$ —	$ 9,423
Cleared derivatives	6,200	(1,667)	4,533	(4,533) [3]	—
Total liabilities	$ 480,306	$ (466,350)	$ 13,956	$ (4,533)	$ 9,423

(1) Any overcollateralization or any excess variation margin associated with daily settled contracts at an individual clearinghouse/clearing member or bilateral counterparty level is not included in the determination of the net unsecured amount.

(2) Consists of collateral pledged by member counterparties.

(3) Consists of securities pledged by the Bank. In addition to the amount needed to secure the counterparties' exposure to the Bank, the Bank had pledged securities with aggregate fair values of $424,845,000 and $525,063,000 at June 30, 2022 and December 31, 2021, respectively, to further secure its cleared derivatives, which is a result of the initial margin requirements imposed upon the Bank.

Note 13—Derivatives and Hedging Activities

Hedging Activities. As a financial intermediary, the Bank is exposed to interest rate risk. This risk arises from a variety of financial instruments that the Bank enters into on a regular basis in the normal course of its business. The Bank enters into interest rate swap, swaption and cap agreements (collectively, interest rate exchange agreements) to manage its exposure to changes in interest rates. The Bank may use these instruments to adjust the effective maturity, repricing frequency, or option characteristics of financial instruments to achieve risk management objectives. In addition, the Bank may use these instruments to hedge the variable cash flows associated with forecasted transactions. The Bank has not entered into any credit default swaps or foreign exchange-related derivatives.

The Bank uses interest rate exchange agreements in three ways: (1) by designating the agreement as a fair value hedge of a specific financial instrument or firm commitment; (2) by designating the agreement as a cash flow hedge of a forecasted transaction; or (3) by designating the agreement as a hedge of some other defined risk (referred to as an "economic hedge"). For example, the Bank uses interest rate exchange agreements in its overall interest rate risk management activities to adjust the interest rate sensitivity of consolidated obligations to approximate more closely the interest rate sensitivity of its assets (both advances and investments), and/or to adjust the interest rate sensitivity of advances or investments to approximate more closely the interest rate sensitivity of its liabilities. In addition to using interest rate exchange agreements to manage mismatches between the coupon features of its assets and liabilities, the Bank also uses interest rate exchange agreements to, among other things, manage embedded options in assets and liabilities, to preserve the market value of existing assets and liabilities, to hedge the duration risk of prepayable instruments, to hedge the variable cash flows associated with forecasted transactions, to offset interest rate exchange agreements entered into with members (the Bank serves as an intermediary in these transactions), and to reduce funding costs.

The Bank, consistent with Finance Agency regulations, enters into interest rate exchange agreements only to reduce potential market risk exposures inherent in otherwise unhedged assets and liabilities or anticipated transactions, or to act as an intermediary between its members and the Bank's non-member derivative counterparties. The Bank is not a derivatives dealer and it does not trade derivatives for short-term profit.

At inception, the Bank formally documents the relationships between derivatives designated as hedging instruments and their hedged items, its risk management objectives and strategies for undertaking the hedge transactions, and its method for assessing the effectiveness of the hedging relationships. For fair value hedges, this process includes linking the derivatives to: (1) specific assets and liabilities on the statements of condition or (2) firm commitments. For cash flow hedges, this process includes linking the derivatives to forecasted transactions. The Bank also formally assesses (both at the inception of the hedging relationship and on a monthly basis thereafter) whether the derivatives that are used in hedging transactions have been highly effective in offsetting changes in the fair value of hedged items or the cash flows associated with forecasted transactions and whether those derivatives may be expected to remain highly effective in future periods. The Bank uses regression analyses to assess the effectiveness of its hedges.

Investment Securities and Mortgage Loans Held for Portfolio — The Bank has invested in agency and non-agency MBS and residential mortgage loans. The interest rate and prepayment risk associated with these investments is managed through consolidated obligations and/or derivatives. The Bank may manage prepayment and duration risk presented by some of these investments with either callable and/or non-callable consolidated obligations and/or interest rate exchange agreements, including interest rate swaps, swaptions and caps.

Substantially all of the Bank's held-to-maturity securities are variable-rate MBS that include caps that would limit the variable-rate coupons if short-term interest rates rise dramatically. To hedge a portion of the potential cap risk embedded in these securities, the Bank entered into interest rate cap agreements, the last of which matured during the year ended December 31, 2021. These derivatives were treated as economic hedges.

All of the Bank's available-for-sale securities are fixed-rate agency and U.S. government-guaranteed debentures and agency CMBS. To hedge the interest rate risk associated with these fixed-rate investment securities, the Bank has entered into fixed-for-floating interest rate exchange agreements, which are designated as fair value hedges. For the fair value hedges that were entered into during the six months ended June 30, 2022, the Bank measures the change in the fair value of the available-for-sale securities on the basis of the benchmark rate component of the contractual coupon cash flows determined at hedge inception.

The Bank's trading securities include U.S Treasury Bills and fixed-rate and, at times, variable rate U.S. Treasury Notes. To convert some of its U.S. Treasury Bills and fixed-rate U.S. Treasury Notes to a short-term floating rate, the Bank has, at times, entered into fixed-for-floating interest rate exchange agreements that are indexed to either the overnight index swap ("OIS") rate or the Secured Overnight Financing Rate ("SOFR"). These derivatives are treated as economic hedges.

The interest rate swaps and swaptions that are used by the Bank to hedge the risks associated with its mortgage loan portfolio are treated as economic hedges.

Advances — The Bank issues both fixed-rate and variable-rate advances. When deemed appropriate, the Bank uses interest rate exchange agreements to adjust the interest rate sensitivity of its fixed-rate advances to approximate more closely the interest rate sensitivity of its liabilities. With issuances of putable advances, the Bank purchases from the member a put option that enables the Bank to terminate a fixed-rate advance on specified future dates. This embedded option is clearly and closely related to the host advance contract. The Bank typically hedges a putable advance by entering into a cancelable interest rate exchange agreement where the Bank pays a fixed-rate coupon and receives a variable-rate coupon, and sells an option to cancel the swap to the swap counterparty. This type of hedge is treated as a fair value hedge. The swap counterparty can cancel the interest rate exchange agreement on the call date and the Bank can cancel the putable advance and offer, subject to certain conditions, replacement funding at prevailing market rates.

From time to time, a small portion of the Bank's variable-rate advances may be subject to interest rate caps that would limit the variable-rate coupons if short-term interest rates rise above a predetermined level. To hedge the cap risk embedded in these advances, the Bank will generally enter into interest rate cap agreements. This type of hedge is treated as a fair value hedge.

The Bank may hedge a firm commitment for a forward-starting advance through the use of an interest rate swap. In this case, the swap will function as the hedging instrument for both the firm commitment and the subsequent advance. The carrying value of the firm commitment will be included in the basis of the advance at the time the commitment is terminated and the advance is issued. The basis adjustment will then be amortized into interest income over the life of the advance.

Consolidated Obligations — While consolidated obligations are the joint and several obligations of the FHLBanks, each FHLBank is the primary obligor for the consolidated obligations it has issued or assumed from another FHLBank. The Bank generally enters into derivative contracts to hedge the interest rate risk associated with its specific debt issuances.

To manage the interest rate risk of certain of its consolidated obligations, the Bank will match the cash outflow on a consolidated obligation with the cash inflow of an interest rate exchange agreement. With issuances of fixed-rate consolidated obligation bonds, the Bank typically enters into a matching interest rate exchange agreement in which the counterparty pays fixed cash flows to the Bank that are designed to mirror in timing and amount the cash outflows the Bank pays on the consolidated obligation. In this transaction, the Bank pays a variable cash flow that closely matches the interest payments it receives on short-term or variable-rate assets. These transactions are treated as fair value hedges. On occasion, the Bank enters into fixed-for-floating interest rate exchange agreements to hedge the interest rate risk associated with certain of its consolidated obligation discount notes. The derivatives associated with the Bank's fair value discount note hedging are indexed to the OIS rate or SOFR and are treated as economic hedges.

The Bank has not issued consolidated obligations denominated in currencies other than U.S. dollars.

Forecasted Issuances of Consolidated Obligations — The Bank uses derivatives to hedge the variability of cash flows over a specified period of time as a result of the forecasted issuances and maturities of short-term, fixed-rate instruments, such as three-month consolidated obligation discount notes. Although each short-term consolidated obligation discount note has a fixed rate of interest, a portfolio of rolling consolidated obligation discount notes effectively has a variable interest rate. The variable cash flows associated with these liabilities are converted to fixed-rate cash flows by entering into receive-variable, pay-fixed interest rate swaps. The maturity dates of the cash flow streams are closely matched to the interest rate reset dates of the derivatives. These derivatives are treated as cash flow hedges.

Counterparty Exposures — When deemed appropriate, the Bank may enter into offsetting interest rate exchange agreements to simultaneously reduce its derivatives exposure to bilateral and/or cleared derivative counterparties. These derivatives are treated as economic hedges.

Intermediation — The Bank offers interest rate exchange agreements to its members to assist them in meeting their hedging needs. In these transactions, the Bank acts as an intermediary for its members by entering into an interest rate exchange agreement with a member and then entering into an offsetting interest rate exchange agreement with one of the Bank's approved derivative counterparties. All interest rate exchange agreements related to the Bank's intermediary activities with its members are accounted for as economic hedges.

Other — From time to time, the Bank may enter into derivatives to hedge risks to its earnings that are not directly linked to specific assets, liabilities or forecasted transactions. These derivatives are treated as economic hedges.

Accounting for Derivatives and Hedging Activities. All derivatives are recognized on the statements of condition at their fair values, including accrued interest receivable and payable. For purposes of reporting derivative assets and derivative liabilities, the Bank offsets the fair value amounts recognized for derivative instruments (including the right to reclaim cash collateral and the obligation to return cash collateral) where a legally enforceable right of setoff exists.

Changes in the fair value of a derivative that is effective as — and that is designated and qualifies as — a fair value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk (including changes that reflect gains or losses on firm commitments), are recorded in current period earnings. The application of hedge accounting generally requires the Bank to evaluate the effectiveness of the fair value hedging relationships on an ongoing basis and to calculate the changes in fair value of the derivatives and related hedged items independently. This is commonly known as the "long-haul" method of hedge accounting. Transactions that meet more stringent criteria qualify for the "shortcut" method of hedge accounting in which an assumption can be made that the change in fair value of a hedged item exactly offsets the change in value of the related derivative. The Bank considers hedges of committed advances to be eligible for the shortcut method of accounting as long as the settlement of the committed advance occurs within the shortest period possible for that type of instrument based on market settlement conventions, the fair value of the swap is zero at the inception of the hedging relationship, and the transaction meets all of the other criteria for shortcut accounting specified in U.S. GAAP. The Bank has defined the market settlement convention to be five business days or less for advances.

Fair value hedge ineffectiveness (which represents the amount by which the change in the fair value of the derivative differs from the change in the fair value of the hedged item attributable to the hedged risk) and the net interest income/expense associated with that derivative are recorded in the same line item as the earnings effect of the hedged item (that is, interest income on advances, interest income on available-for-sale securities or interest expense on consolidated obligation bonds, as appropriate).

Changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge are recorded in accumulated other comprehensive income ("AOCI") until earnings are affected by the variability of the cash flows of the hedged transaction, at which time these amounts are reclassified from AOCI to the income statement line where the earnings effect of the hedged item is reported (e.g., interest expense on consolidated obligation discount notes).

An economic hedge is defined as a derivative hedging specific or non-specific assets or liabilities that does not qualify or was not designated for hedge accounting, but is an acceptable hedging strategy under the Bank's Enterprise Market Risk Management Policy. These hedging strategies also comply with Finance Agency regulatory requirements prohibiting speculative derivative transactions. An economic hedge by definition introduces the potential for earnings variability as changes in the fair value of a derivative designated as an economic hedge are recorded in current period earnings with no offsetting fair value adjustment to an asset or liability. Both the net interest income/expense and the fair value changes associated with derivatives in economic hedging relationships are recorded in other income (loss) as "net gains (losses) on derivatives and hedging activities."

The Bank records the changes in fair value of all derivatives (and, in the case of fair value hedges, the hedged items) beginning on the trade date.

Cash flows associated with all derivatives are reported as cash flows from operating activities in the statements of cash flows, unless the derivative contains an other-than-insignificant financing element, in which case its cash flows are reported as cash flows from financing activities.

The Bank may issue debt, make advances, or purchase financial instruments in which a derivative instrument is "embedded" and the financial instrument that embodies the embedded derivative instrument is not remeasured at fair value with changes in fair value reported in earnings as they occur. Upon execution of these transactions, the Bank assesses whether the economic characteristics of the embedded derivative are clearly and closely related to the economic characteristics of the remaining component of the financial instrument (i.e., the host contract) and whether a separate, non-embedded instrument with the same terms as the embedded instrument would meet the definition of a derivative instrument. When it is determined that (1) the embedded derivative possesses economic characteristics that are not clearly and closely related to the economic characteristics of the host contract and (2) a separate, stand-alone instrument with the same terms would qualify as a derivative instrument, the embedded derivative is separated from the host contract, carried at fair value, and designated as either (1) a hedging instrument in a fair value hedge or (2) a stand-alone derivative instrument pursuant to an economic hedge. However, if the entire contract were to be measured at fair value, with changes in fair value reported in current earnings, or if the Bank could not reliably identify and measure the embedded derivative for purposes of separating that derivative from its host contract, the entire contract would be carried on the statement of condition at fair value and no portion of the contract would be separately accounted for as a derivative.

The Bank discontinues hedge accounting prospectively when: (1) management determines that the derivative is no longer highly effective in offsetting changes in the fair value or cash flows of a hedged item; (2) the derivative and/or the hedged item expires or is sold, terminated, or exercised; (3) it is no longer probable that a forecasted transaction will occur within the originally specified time frame; (4) a hedged firm commitment no longer meets the definition of a firm commitment; or (5) management determines that designating the derivative as a hedging instrument is no longer appropriate.

In all cases in which hedge accounting is discontinued and the derivative remains outstanding, the Bank will carry the derivative at its fair value on the statement of condition, recognizing any additional changes in the fair value of the derivative in current period earnings as a component of "net gains (losses) on derivatives and hedging activities."

When fair value hedge accounting for a specific derivative is discontinued due to the Bank’s determination that such derivative no longer qualifies for hedge accounting treatment or because the derivative is terminated, the Bank will cease to adjust the hedged asset or liability for changes in fair value and amortize the cumulative basis adjustment on the formerly hedged item into earnings over its remaining term using the level-yield method. The amortization is recorded in the same line item as the earnings effect of the formerly hedged item.

When hedge accounting is discontinued because the hedged item no longer meets the definition of a firm commitment, the Bank continues to carry the derivative on the statement of condition at its fair value, removing from the statement of condition any asset or liability that was recorded to recognize the firm commitment and recording it as a gain or loss in current period earnings.

When cash flow hedge accounting for a specific derivative is discontinued due to the Bank's determination that such derivative no longer qualifies for hedge accounting treatment or because the derivative is terminated, the Bank will reclassify the cumulative fair value gains or losses recorded in AOCI as of the discontinuance date from AOCI into earnings when earnings are affected by the original forecasted transaction. If the Bank expects at any time that continued reporting of a net loss in AOCI would lead to recognizing a net loss on the combination of the hedging instrument and hedged transaction in one or more future periods, the amount that is not expected to be recovered is immediately reclassified to earnings. These items are recorded in the same income statement line where the earnings effect of the hedged item is reported.

In cases where the cash flow hedge is discontinued because the forecasted transaction is no longer probable (i.e., the forecasted transaction will not occur in the originally expected period or within an additional two-month period of time thereafter), any fair value gains or losses recorded in AOCI as of the determination date are immediately reclassified to earnings as a component of "net gains (losses) on derivatives and hedging activities."

Impact of Derivatives and Hedging Activities. The following table summarizes the notional balances and estimated fair values of the Bank's outstanding derivatives (inclusive of variation margin on daily settled contracts) and the amounts offset against those values in the statement of condition at June 30, 2022 and December 31, 2021 (in thousands).

	June 30, 2022			December 31, 2021		
		Estimated Fair Value			Estimated Fair Value	
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as hedging instruments						
Interest rate swaps						
Advances [1]	$ 13,400,399	$ 11,820	$ 58,212	$ 9,806,989	$ 104	$ 212,533
Available-for-sale securities [1]	13,805,481	3,901	85,200	14,398,278	2,028	10,502
Consolidated obligation bonds [1]	31,282,205	4,854	1,632,489	24,112,140	9,495	253,444
Consolidated obligation discount notes [2]	1,066,000	—	7,149	1,066,000	6	132
Total derivatives designated as hedging instruments	59,554,085	20,575	1,783,050	49,383,407	11,633	476,611
Derivatives not designated as hedging instruments						
Interest rate swaps						
Advances	65,000	—	83	265,000	—	2,044
Available-for-sale securities	3,053	—	17	3,081	—	1
Mortgage loans held for portfolio	435,000	640	2,370	265,000	22	28
Consolidated obligation bonds	106,445	616	—	—	—	—
Consolidated obligation discount notes	2,022,000	737	—	900,000	—	20
Trading securities	500,000	—	27	—	—	—
Counterparty exposure	7,000,000	31,713	3,228	1,000,000	116	229
Intermediary transactions	84,558	888	573	91,672	3,834	1,320
Other	425,000	2,600	—	425,000	146	—
Interest rate swaptions						
Available-for-sale securities	1,150,000	5,725	—	—	—	—
Mortgage loans held for portfolio	200,000	10,236	—	600,000	9,448	—
Mortgage delivery commitments	25,615	88	—	33,217	—	53
Interest rate caps						
Intermediary transactions	80,000	12	12	80,000	—	—
Total derivatives not designated as hedging instruments	12,096,671	53,255	6,310	3,662,970	13,566	3,695
Total derivatives before collateral and netting adjustments	$ 71,650,756	73,830	1,789,360	$ 53,046,377	25,199	480,306
Cash collateral and related accrued interest		120,162	(1,614,637)		(3,350)	(452,763)
Cash remitted in excess of variation margin requirements		—	42		2	1,187
Netting adjustments		(71,892)	(71,892)		(14,774)	(14,774)
Total collateral and netting adjustments [3]		48,270	(1,686,487)		(18,122)	(466,350)
Net derivative balances reported in statements of condition		$ 122,100	$ 102,873		$ 7,077	$ 13,956

(1) Derivatives designated as fair value hedges.

(2) Derivatives designated as cash flow hedges.

(3) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions as well as any cash collateral held or placed with those same counterparties.

The following table presents the components of net gains (losses) on qualifying fair value and cash flow hedging relationships for the three and six months ended June 30, 2022 and 2021 (in thousands). Gains and losses on derivatives in fair value hedging relationships include the change in fair value of the derivatives and the net interest income/expense associated with those derivatives.

	Interest Income (Expense)				
	Advances	Available-for-Sale Securities	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes	Other Comprehensive Income (Loss)
Three Months Ended June 30, 2022					
Total amount of the financial statement line item	$ 105,264	$ 65,432	$ (82,613)	$ (41,567)	$ 1,559
Gains (losses) on fair value hedging relationships included in the financial statement line item					
Interest rate contracts					
Derivatives	$ 154,397	$ 243,854	$ (392,622)	$ —	$ —
Hedged items	(175,000)	(281,219)	423,455	—	—
Net gains (losses) on fair value hedging relationships	$ (20,603)	$ (37,365)	$ 30,833	$ —	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item					
Interest rate contracts					
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ (3,545)	$ 3,545
Recognized in OCI	—	—	—	—	25,656
Net gains (losses) on cash flow hedging relationships	$ —	$ —	$ —	$ (3,545)	$ 29,201
Three Months Ended June 30, 2021					
Total amount of the financial statement line item	$ 28,322	$ 24,258	$ (17,590)	$ (7,039)	$ (37,934)
Gains (losses) on fair value hedging relationships included in the financial statement line item					
Interest rate contracts					
Derivatives	$ (60,883)	$ (187,992)	$ 132,798	$ —	$ —
Hedged items	35,965	108,954	(78,780)	—	—
Net gains (losses) on fair value hedging relationships	$ (24,918)	$ (79,038)	$ 54,018	$ —	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item					
Interest rate contracts					
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ (5,562)	$ 5,562
Recognized in OCI	—	—	—	—	(20,054)
Net losses on cash flow hedging relationships	$ —	$ —	$ —	$ (5,562)	$ (14,492)

	Interest Income (Expense)				
	Advances	Available-for-Sale Securities	Consolidated Obligation Bonds	Consolidated Obligation Discount Notes	Other Comprehensive Income (Loss)
Six Months Ended June 30, 2022					
Total amount of the financial statement line item	$ 141,202	$ 122,464	$ (106,568)	$ (51,770)	$ (6,054)
Gains (losses) on fair value hedging relationships included in the financial statement line item					
Interest rate contracts					
Derivatives	$ 375,907	$ 855,155	$ (1,345,823)	$ —	$ —
Hedged items	(419,322)	(941,923)	1,433,315	—	—
Net gains (losses) on fair value hedging relationships	$ (43,415)	$ (86,768)	$ 87,492	$ —	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item					
Interest rate contracts					
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ (8,842)	$ 8,842
Recognized in OCI	—	—	—	—	81,509
Net gains (losses) on cash flow hedging relationships	$ —	$ —	$ —	$ (8,842)	$ 90,351
Six Months Ended June 30, 2021					
Total amount of the financial statement line item	$ 61,666	$ 75,052	$ (41,220)	$ (16,381)	$ 174,138
Gains (losses) on fair value hedging relationships included in the financial statement line item					
Interest rate contracts					
Derivatives	$ 147,805	$ 314,756	$ (82,830)	$ —	$ —
Hedged items	(198,034)	(446,087)	167,578	—	—
Net gains (losses) on fair value hedging relationships	$ (50,229)	$ (131,331)	$ 84,748	$ —	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item					
Interest rate contracts					
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ (11,019)	$ 11,019
Recognized in OCI	—	—	—	—	29,910
Net gains (losses) on cash flow hedging relationships	$ —	$ —	$ —	$ (11,019)	$ 40,929

For the three and six months ended June 30, 2022 and 2021, there were no amounts reclassified from AOCI into earnings as a result of the discontinuance of cash flow hedges because the original forecasted transactions occurred by the end of the originally specified time periods or within two-month periods thereafter. At June 30, 2022, $9,935,000 of deferred net gains on derivative instruments in AOCI are expected to be reclassified to earnings during the next 12 months. At that same date, the maximum length of time over which the Bank is hedging its exposure to the variability in future cash flows for forecasted transactions is 7.6 years.

The following table presents the cumulative basis adjustments on hedged items either designated or previously designated as fair value hedges and the related amortized cost of those items as of June 30, 2022 (in thousands).

Line Item in Statement of Condition of Hedged Item	Amortized Cost of Hedged Asset/ (Liability) (1)	Basis Adjustments for Active Hedging Relationships Included in Amortized Cost	Basis Adjustments for Discontinued Hedging Relationships Included in Amortized Cost	Total Fair Value Hedging Basis Adjustments (2)
June 30, 2022				
Advances	$ 13,242,531	$ (189,907)	$ 4,291	$ (185,616)
Available-for-sale securities	13,488,366	(408,605)	(465)	(409,070)
Consolidated obligation bonds	(29,755,017)	1,707,165	(571)	1,706,594
December 31, 2021				
Advances	$ 10,065,117	$ 226,159	$ 4,918	$ 231,077
Available-for-sale securities	15,046,972	532,869	(1,441)	531,428
Consolidated obligation bonds	(24,017,958)	273,936	(657)	273,279

(1) Reflects the amortized cost of hedged items in active or discontinued fair value hedging relationships, which includes fair value hedging basis adjustments.

(2) Reflects the cumulative life-to-date unamortized hedging gains (losses) on the hedged items.

The following table presents the components of net gains (losses) on derivatives and hedging activities that are reported in other income (loss) for the three and six months ended June 30, 2022 and 2021 (in thousands).

	Gain (Loss) Recognized in Other Income (Loss) for the Three Months Ended June 30,		Gain (Loss) Recognized in Other Income (Loss) for the Six Months Ended June 30,	
	2022	2021	2022	2021
Derivatives not designated as hedging instruments				
Interest rate swaps	$ 6,416	$ 13,474	$ (16,313)	$ (2,602)
Net interest income on interest rate swaps	1,141	2,228	2,797	1,512
Interest rate swaptions	(13,735)	(14,123)	(31)	3,151
Mortgage delivery commitments	1,897	(697)	(784)	(1,879)
Total net gains (losses) related to derivatives not designated as hedging instruments	(4,281)	882	(14,331)	182
Price alignment amount on variation margin for daily settled derivative contracts(1)	56	—	59	—
Net gains (losses) on derivatives and hedging activities reported in other income (loss)	$ (4,225)	$ 882	$ (14,272)	$ 182

(1) Reflects the price alignment amounts on variation margin for daily settled derivative contracts that are not designated as hedging instruments. The price alignment amounts on variation margin for daily settled derivative contracts that are designated as hedging instruments are recorded in the same line item as the earnings effect of the hedged item.

Credit Risk Related to Derivatives. The Bank is subject to credit risk due to the risk of nonperformance by counterparties to its derivative agreements. The Bank manages derivative counterparty credit risk through the use of master netting agreements or other similar collateral exchange arrangements, credit analysis, and adherence to the requirements set forth in the Bank’s Enterprise Market Risk Management Policy, Enterprise Credit Risk Management Policy, and Finance Agency regulations. Approximately 42 percent of the Bank's derivative contracts (based on notional value) have been cleared through third-party central clearinghouses (as of June 30, 2022, the notional balance of cleared transactions outstanding totaled $29.9 billion). With cleared transactions, the Bank is exposed to credit risk in the event that the clearinghouse or the clearing member fails to meet its obligations to the Bank. The remainder of the Bank's derivative contracts have been transacted bilaterally with large financial institutions under master netting agreements or, to a much lesser extent, with member institutions (as of June 30, 2022, the notional balance of outstanding transactions with non-member bilateral counterparties and member counterparties totaled $41.7 billion and $0.1 billion, respectively). Some of these institutions (or their affiliates) buy, sell, and distribute consolidated obligations.

The notional amount of the Bank's interest rate exchange agreements does not reflect its credit risk exposure, which is much less than the notional amount. The Bank's net credit risk exposure is based on the current estimated cost, on a present value basis, of replacing at current market rates all interest rate exchange agreements with individual counterparties, if those counterparties were to default, after taking into account the value of any cash and/or securities collateral held or remitted by the Bank. For counterparties with which the Bank is in a net gain position, the Bank has credit exposure when the collateral it is holding (if any) has a value less than the amount of the gain. For counterparties with which the Bank is in a net loss position, the Bank has credit exposure when it has delivered collateral with a value greater than the amount of the loss position. The net exposure on derivative agreements is presented in Note 12. Based on the netting provisions and collateral requirements associated with its derivative agreements and the creditworthiness of its derivative counterparties, Bank management does not currently anticipate any credit losses on its derivative agreements.

Note 14—Capital

At all times during the six months ended June 30, 2022, the Bank was in compliance with all applicable statutory and regulatory capital requirements. The following table summarizes the Bank’s compliance with those capital requirements as of June 30, 2022 and December 31, 2021 (dollars in thousands):

	June 30, 2022		December 31, 2021	
	Required	Actual	Required	Actual
Regulatory capital requirements:				
Risk-based capital	$ 654,882	$ 4,469,104	$ 757,555	$ 3,757,578
Total capital	$ 3,108,589	$ 4,469,104	$ 2,539,535	$ 3,757,578
Total capital-to-assets ratio	4.00 %	5.75 %	4.00 %	5.92 %
Leverage capital	$ 3,885,736	$ 6,703,656	$ 3,174,419	$ 5,636,367
Leverage capital-to-assets ratio	5.00 %	8.63 %	5.00 %	8.88 %

The Bank must also maintain a minimum capital stock-to-assets ratio of 2.0 percent, as measured on a daily average basis at each month end. The Bank was in compliance with this requirement at each of the month ends during the six months ended June 30, 2022 and 2021.

Members are required to maintain an investment in Class B Capital Stock equal to the sum of a membership investment requirement and an activity-based investment requirement. The membership investment requirement is currently 0.04 percent of each member’s total assets as of December 31, 2021, subject to a minimum of $1,000 and a maximum of $7,000,000. The activity-based investment requirement is 4.1 percent of outstanding advances and 0.1 percent of outstanding letters of credit, except as described below.

On September 21, 2015, the Bank announced a Board-authorized reduction in the activity-based stock investment requirement from 4.1 percent to 2.0 percent for certain advances that were funded during the period from October 21, 2015 through December 31, 2015. To be eligible for the reduced activity-based investment requirement, advances funded during this period had to have a maturity of one year or greater, among other things. The standard activity-based stock investment requirement of 4.1 percent continued to apply to all other advances that were funded during the period from October 21, 2015 through December 31, 2015.

On February 28, 2020, the Bank announced another Board-authorized reduction in the activity-based stock investment requirement from 4.1 percent to 2.0 percent for up to $5.0 billion of advances that: (1) were funded during the period from April 1, 2020 through December 31, 2020 and (2) had a maturity of one year or greater. On July 1, 2020, the Bank announced a Board-authorized modification to this special advances offering. As modified, the Bank's activity-based capital stock investment requirement was reduced from 4.1 percent to 2.0 percent for advances that: (1) were funded during the period from August 1, 2020 through December 31, 2020 and (2) had a maturity of 28 days or greater. On December 7, 2020, the Bank announced that its Board of Directors had authorized the Bank to extend the expiration date of the special advances offering from December 31, 2020 to June 30, 2021. On March 17, 2021, the Bank announced another Board-authorized modification and extension to this special advances offering. As modified and extended, the Bank's activity-based capital stock investment requirement has been reduced from 4.1 percent to 2.0 percent for advances that: (1) are funded during the period from April 19, 2021 through December 31, 2021 and (2) have a maturity of 32 days or greater. For advances that were funded on or prior to April 18, 2021, the reduced activity-based capital stock investment requirement continued to apply to advances that had a maturity of 28 days or greater. On December 8, 2021, the Bank announced that its Board of Directors had authorized the Bank to extend the expiration date of the special advances offering from December 31, 2021 to December 31, 2022. Under the special advances offering described in this paragraph, the maximum balance of advances to which the reduced activity-based stock investment requirement can be applied is $5.0 billion. Except as described in this paragraph, the standard activity-based stock investment requirement of 4.1 percent continues to apply to all other advances that are funded during the period from April 1, 2020 through December 31, 2022.

The activity-based investment requirement relating to letters of credit was implemented on April 19, 2021 and it applies only to letters of credit that are issued or renewed on and after that date. The stock requirement is applied to the issued amount of the letter of credit rather than, if applicable, the amount of the letter of credit that is used from time to time during the term of the letter of credit. Further, renewals for this purpose include amendments that extend the expiration date of the letter of credit.

The Bank generally repurchases surplus stock quarterly. For the repurchases that occurred during the six months ended June 30, 2022, surplus stock was defined as the amount of stock held by a member shareholder in excess of 125 percent of the shareholder’s minimum investment requirement. For those repurchases, which occurred on March 28, 2022 and June 27, 2022, a member shareholder's surplus stock was not repurchased if: (1) the amount of that shareholder's surplus stock was $2,000,000 or less, (2) the shareholder elected to opt-out of the repurchase, or (3) the shareholder was on restricted collateral status (subject to certain exceptions). On March 28, 2022 and June 27, 2022, the Bank repurchased surplus stock totaling $57,007,000 and $142,951,000, respectively, none of which was classified as mandatorily redeemable capital stock at those dates. From time to time, the Bank may modify the definition of surplus stock or the timing and/or frequency of surplus stock repurchases.

On March 28, 2022 and June 27, 2022, the Bank also repurchased all excess stock held by non-member shareholders as of those dates. This excess stock, all of which was classified as mandatorily redeemable capital stock at those dates, totaled $200 and $2,129,000, respectively.

Note 15—Employee Retirement Plans

The Bank sponsors a retirement benefits program that includes health care and limited life insurance benefits for eligible retirees. Components of net periodic benefit cost (credit) related to this program for the three and six months ended June 30, 2022 and 2021 were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Service cost	$ 9	$ 10	$ 18	$ 20
Interest cost	4	5	8	10
Amortization of prior service cost	5	5	10	10
Amortization of net actuarial gain	(19)	(17)	(38)	(34)
Net periodic benefit cost (credit)	$ (1)	$ 3	$ (2)	$ 6

The Bank reports the service cost component of its net periodic postretirement benefit cost (credit) in compensation and benefits expense and the other components of net periodic postretirement benefit cost (credit) in "other, net" in the other income (loss) section of the statement of income.

Note 16—Estimated Fair Values

Fair value is defined under U.S. GAAP as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. U.S. 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. U.S. GAAP also requires an entity to disclose the level within the fair value hierarchy in which each measurement is classified. The fair value hierarchy prioritizes the inputs used to measure fair value into three broad levels:

Level 1 Inputs — Quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

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

Level 3 Inputs — Unobservable inputs for the asset or liability that are supported by little or no market activity. None of the Bank's assets or liabilities that are recorded at fair value on a recurring basis were measured using significant Level 3 inputs.

For financial instruments carried at fair value, the Bank 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 assets or liabilities. For the six months ended June 30, 2022 and 2021, the Bank did not reclassify any fair value measurements.

The following estimated fair value amounts have been determined by the Bank using available market information and management's best judgment of appropriate valuation methods. These estimates are based on pertinent information available to the Bank as of June 30, 2022 and December 31, 2021. Although management uses its best judgment in estimating the fair value of these financial instruments, there are inherent limitations in any estimation technique or valuation methodology. For example, because an active secondary market does not exist for many of the Bank's financial instruments (e.g., advances, non-agency RMBS and mortgage loans held for portfolio), in certain cases their fair values are not subject to precise quantification or verification. Therefore, the estimated fair values presented below in the Fair Value Summary Tables may not be indicative of the amounts that would have been realized in market transactions at the reporting dates. Further, the fair values do not represent an estimate of the overall market value of the Bank as a going concern, which would take into account future business opportunities.

The valuation techniques used to measure the fair values of the Bank's financial instruments that are measured at fair value on the statement of condition are described below.

Trading and available-for-sale securities. To value its U.S. Treasury Notes and U.S. Treasury Bills classified as trading securities and all of its available-for-sale securities, the Bank obtains prices from three designated third-party pricing vendors when available.

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

A "median" price is first established for each security using a formula that is based upon the number of prices received. If three prices are received, the middle price is the median price; if two prices are received, the average of the two prices is the median price; and if one price is received, it is the median price (and also the final price) subject to some type of validation similar to the evaluation of outliers described below. All prices that are within a specified tolerance threshold of the median price are included in the "cluster" of prices that are averaged to compute a "default" price. All prices that are outside the threshold ("outliers") are subject to further analysis (including, but not limited to, comparison to prices provided by an additional third-party valuation service, prices for similar securities, and/or non-binding dealer estimates) to determine if an outlier is a better estimate of fair value. If an outlier (or some other price identified in the analysis) is determined to be a better estimate of fair value, then the outlier (or the other price, as appropriate) is used as the final price rather than the default price. If, on the other hand, the analysis confirms that an outlier (or outliers) is (are) in fact not representative of fair value and the default price is the best estimate, then the default price is used as the final price. In all cases, the final price is used to determine the fair value of the security.

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

As of June 30, 2022 and December 31, 2021, three vendor prices were received for substantially all of the Bank's trading and available-for-sale securities and the final prices for substantially all of those securities were computed by averaging the three prices. Based on the Bank's understanding of the pricing methods employed by the third-party pricing vendors and the relative lack of dispersion among the vendor prices (or, in those instances in which there were outliers, the Bank's additional analyses), the Bank believes its final prices result in reasonable estimates of the fair values and that the fair value measurements are classified appropriately in the fair value hierarchy.

Derivative assets/liabilities. The fair values of the Bank's interest rate swap and swaption agreements are estimated using a pricing model with inputs that are observable in the market (e.g., the relevant interest rate curves (that is, the relevant LIBOR swap curve, the SOFR curve or the OIS curve and, for purposes of discounting, either the OIS curve for bilateral contracts or the SOFR curve for cleared contracts) and, for agreements containing options, swaption volatility). The fair values of the Bank's interest rate caps are also estimated using a pricing model with inputs that are observable in the market (that is, cap volatility, the relevant LIBOR swap curve and, for purposes of discounting, the OIS curve).

As the collateral (or variation margin in the case of daily settled contracts) and netting provisions of the Bank's arrangements with its derivative counterparties significantly reduce the risk from nonperformance (see Note 12), the Bank does not consider its own nonperformance risk or the nonperformance risk associated with each of its counterparties to be a significant factor in the valuation of its derivative assets and liabilities. The Bank compares the fair values obtained from its pricing model to clearinghouse valuations (in the case of cleared derivatives) and non-binding dealer estimates (in the case of bilateral derivatives) and may also compare its fair values to those of similar instruments to ensure that the fair values are reasonable.

The fair values of the Bank's derivative assets and liabilities include accrued interest receivable/payable and cash collateral remitted to/received from counterparties; the estimated fair values of the accrued interest receivable/payable and cash collateral approximate their carrying values due to their short-term nature. The fair values of the Bank's bilateral derivatives are netted by counterparty pursuant to the provisions of the credit support annexes to the Bank's master netting agreements with its non-member bilateral derivative counterparties. The Bank's cleared derivative transactions with each clearing member of each clearinghouse are netted pursuant to the Bank's arrangements with those parties. In each case, if the netted amounts are positive, they are classified as an asset and, if negative, as a liability.

The Bank estimates the fair values of mortgage delivery commitments based upon the prices for to-be-announced ("TBA") securities, which represent quoted market prices for forward-settling agency MBS. The prices are adjusted for differences in coupon, cost to carry, vintage, remittance type and product type between the Bank's mortgage loan commitments and the referenced TBA MBS.

Other assets held at fair value. To value its mutual fund investments included in other assets, the Bank obtains quoted prices for the mutual funds.

The following table presents the carrying values and estimated fair values of the Bank's financial instruments at June 30, 2022 (in thousands), as well as the level within the fair value hierarchy in which the measurements are classified. Financial assets and liabilities are classified in their entirety based on the lowest level input that is significant to the fair value estimate.

FAIR VALUE SUMMARY TABLE

		Estimated Fair Value				
Financial Instruments	**Carrying Value**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustment[4]**
Assets:						
Cash and due from banks	$ 29,647	$ 29,647	$ 29,647	$ —	$ —	$ —
Interest-bearing deposits	915,295	915,295	—	915,295	—	—
Securities purchased under agreements to resell	14,200,000	14,200,000	—	14,200,000	—	—
Federal funds sold	6,344,000	6,344,000	—	6,344,000	—	—
Trading securities [1]	1,514,529	1,514,529	—	1,514,529	—	—
Available-for-sale securities [1]	13,632,317	13,632,317	—	13,632,317	—	—
Held-to-maturity securities	447,478	454,217	—	419,963 [2]	34,254 [3]	—
Advances	36,375,762	36,294,854	—	36,294,854	—	—
Mortgage loans held for portfolio, net	3,985,872	3,659,669	—	3,659,669	—	—
Accrued interest receivable	110,342	110,342	—	110,342	—	—
Derivative assets [1]	122,100	122,100	—	73,830	—	48,270
Other assets held at fair value [1]	15,323	15,323	15,323	—	—	—
Liabilities:						
Deposits	1,676,884	1,676,801	—	1,676,801	—	—
Consolidated obligations						
Discount notes	29,622,896	29,581,962	—	29,581,962	—	—
Bonds	40,944,088	40,416,932	—	40,416,932	—	—
Mandatorily redeemable capital stock	13,698	13,698	13,698	—	—	—
Accrued interest payable	116,163	116,163	—	116,163	—	—
Derivative liabilities [1]	102,873	102,873	—	1,789,360	—	(1,686,487)

(1) Financial instruments measured at fair value on a recurring basis as of June 30, 2022.
(2) Consists of the Bank's holdings of U.S. government-guaranteed debentures and GSE RMBS.
(3) Consists of the Bank's holdings of non-agency RMBS.
(4) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions (inclusive of variation margin for daily settled contracts) as well as any cash collateral held or placed with those same counterparties.

The following table presents the carrying values and estimated fair values of the Bank's financial instruments at December 31, 2021 (in thousands), as well as the level within the fair value hierarchy in which the measurements are classified. Financial assets and liabilities are classified in their entirety based on the lowest level input that is significant to the fair value estimate.

FAIR VALUE SUMMARY TABLE

		Estimated Fair Value				
Financial Instruments	**Carrying Value**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustment[4]**
Assets:						
Cash and due from banks	$ 542,801	$ 542,801	$ 542,801	$ —	$ —	$ —
Interest-bearing deposits	885,745	885,745	—	885,745	—	—
Securities purchased under agreements to resell	10,650,000	10,650,000	—	10,650,000	—	—
Federal funds sold	4,781,000	4,781,000	—	4,781,000	—	—
Trading securities [1]	2,454,870	2,454,870	—	2,454,870	—	—
Available-for-sale securities [1]	15,288,032	15,288,032	—	15,288,032	—	—
Held-to-maturity securities	593,555	606,352	—	566,487 [2]	39,865 [3]	—
Advances	24,637,464	24,670,292	—	24,670,292	—	—
Mortgage loans held for portfolio, net	3,491,265	3,505,042	—	3,505,042	—	—
Accrued interest receivable	91,581	91,581	—	91,581	—	—
Derivative assets [1]	7,077	7,077	—	25,199	—	(18,122)
Other assets held at fair value [1]	17,574	17,574	17,574	—	—	—
Liabilities:						
Deposits	1,590,188	1,590,187	—	1,590,187	—	—
Consolidated obligations						
Discount notes	11,003,026	11,000,139	—	11,000,139	—	—
Bonds	44,514,220	44,487,511	—	44,487,511	—	—
Mandatorily redeemable capital stock	6,657	6,657	6,657	—	—	—
Accrued interest payable	73,038	73,038	—	73,038	—	—
Derivative liabilities [1]	13,956	13,956	—	480,306	—	(466,350)

(1) Financial instruments measured at fair value on a recurring basis as of December 31, 2021.

(2) Consists of the Bank's holdings of U.S. government-guaranteed debentures, state housing agency debentures and GSE RMBS.

(3) Consists of the Bank's holdings of non-agency RMBS.

(4) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions (inclusive of variation margin for daily settled contracts) as well as any cash collateral held or placed with those same counterparties.

Note 17—Commitments and Contingencies

Joint and several liability. The Bank is jointly and severally liable with the other 10 FHLBanks for the payment of principal and interest on all of the consolidated obligations issued by the FHLBanks. At June 30, 2022, the par amount of the other 10 FHLBanks' outstanding consolidated obligations was approximately $810 billion. The Finance Agency, in its discretion, may require any FHLBank to make principal or interest payments due on any consolidated obligation, regardless of whether there has been a default by a FHLBank having primary liability. To the extent that a FHLBank makes any consolidated obligation payment on behalf of another FHLBank, the paying FHLBank is entitled to reimbursement from the FHLBank with primary liability. However, if the Finance Agency determines that the primary obligor is unable to satisfy its obligations, then the Finance Agency may allocate the outstanding liability among the remaining FHLBanks on a pro rata basis in proportion to each FHLBank's participation in all consolidated obligations outstanding, or on any other basis that the Finance Agency may determine. No FHLBank has ever failed to make any payment on a consolidated obligation for which it was the primary obligor; as a result, the regulatory provisions for directing other FHLBanks to make payments on behalf of another FHLBank or allocating the liability among other FHLBanks have never been invoked. If the Bank expected that it would be required to pay any amounts on behalf of its co-obligors under its joint and several liability, the Bank would charge to income the amount of the expected payment. Based upon the creditworthiness of the other FHLBanks, the Bank currently believes that the likelihood that it would have to pay any amounts beyond those for which it is primarily liable is remote.

Other commitments and contingencies. At June 30, 2022 and December 31, 2021, the Bank had commitments to make additional advances totaling approximately $106,907,000 and $22,042,000, respectively. In addition, outstanding standby letters of credit totaled $18,867,515,000 and $21,652,978,000 at June 30, 2022 and December 31, 2021, respectively. Based on management's credit analyses and collateral requirements, the Bank does not deem it necessary to have any provision for credit losses on these letters of credit (see Note 9).

The Bank has entered into standby bond purchase agreements with a state housing finance agency within its district whereby, for a fee, the Bank agrees to serve as a standby liquidity provider. If required, the Bank will purchase and hold the housing finance agency's bonds until the designated marketing agent can find a suitable investor or the housing finance agency repurchases the bonds according to a schedule established by the agreement. Each standby bond purchase agreement includes the provisions under which the Bank would be required to purchase the bonds. At June 30, 2022 and December 31, 2021, the Bank had outstanding standby bond purchase agreements totaling $883,236,000 and $914,041,000, respectively. At June 30, 2022, standby bond purchase agreements totaling $160,350,000, $200,234,000, $45,390,000, $231,399,000, and $245,863,000 expire in 2022, 2023, 2024, 2025 and 2026, respectively. The Bank was not required to purchase any bonds under these agreements during the six months ended June 30, 2022 or the year ended December 31, 2021.

At June 30, 2022 and December 31, 2021, the Bank had commitments to purchase conventional mortgage loans totaling $25,615,000 and $33,217,000, respectively, from certain of its members that participate in the MPF program.

At June 30, 2022 and December 31, 2021, the Bank had commitments to issue $375,000,000 and $350,000,000 (par values), respectively, of consolidated obligation bonds, all of which were hedged with interest rate swaps. The Bank did not have any commitments to issue consolidated obligation discount notes at June 30, 2022 or December 31, 2021.

The Bank has transacted interest rate exchange agreements with large financial institutions and third-party clearinghouses that are subject to collateral exchange arrangements. As of June 30, 2022 and December 31, 2021, the Bank had pledged cash collateral of $1,733,256,000 and $456,491,000, respectively, to those parties that had credit risk exposure to the Bank related to interest rate exchange agreements. The pledged cash collateral (i.e., interest-bearing deposit asset) is netted against derivative assets and liabilities in the statements of condition. In addition, as of June 30, 2022 and December 31, 2021, the Bank had pledged securities with carrying values (and fair values) of $521,582,000 and $529,596,000, respectively, to parties that had credit risk exposure to the Bank related to interest rate exchange agreements. The pledged securities may be rehypothecated and are not netted against derivative assets and liabilities in the statements of condition.

In the ordinary course of its business, the Bank is subject to the risk that litigation may arise. Currently, the Bank is not a party to any material pending legal proceedings.

Note 18— Transactions with Shareholders

An affiliate of one of the Bank's derivative counterparties (Wells Fargo) acquired a member institution on October 1, 2006. Since the acquisition was completed, the Bank has continued to enter into interest rate exchange agreements with Wells Fargo in the normal course of business and under the same terms and conditions as before. In addition, the Bank maintains interest-bearing deposits with an affiliate of Wells Fargo.

Note 19 — Transactions with Other FHLBanks

Occasionally, the Bank loans (or borrows) short-term federal funds to (or from) other FHLBanks. The Bank did not loan any short-term federal funds to other FHLBanks during the six months ended June 30, 2021. During the six months ended June 30, 2022, interest income on loans to other FHLBanks totaled $85,556. The following table summarizes the Bank’s loans to other FHLBanks during the six months ended June 30, 2022 (in thousands).

	Six Months Ended June 30, 2022
Balance at January 1,	$ —
Loans made to:	
FHLBank of San Francisco	1,000,000
FHLBank of Atlanta	750,000
Collections from:	
FHLBank of San Francisco	(1,000,000)
FHLBank of Atlanta	(750,000)
Balance at June 30,	$ —

During the six months ended June 30, 2022 and 2021, interest expense on borrowings from other FHLBanks totaled $259 and $39, respectively. The following table summarizes the Bank’s borrowings from other FHLBanks during the six months ended June 30, 2022 and 2021 (in thousands).

	Six Months Ended June 30,	
	2022	2021
Balance at January 1,	$ —	$ —
Borrowings from FHLBank of Indianapolis	20,000	20,000
Repayments to FHLBank of Indianapolis	(20,000)	(20,000)
Balance at June 30,	$ —	$ —

Note 20 — Accumulated Other Comprehensive Income (Loss)

The following table presents the changes in the components of AOCI for the three and six months ended June 30, 2022 and 2021 (in thousands).

	Net Unrealized Gains (Losses) on Available-for-Sale Securities [1]	Net Unrealized Gains (Losses) on Cash Flow Hedges	Non-Credit Portion of Other-than-Temporary Impairment Losses on Held-to-Maturity Securities	Postretirement Benefits	Total AOCI
Three Months Ended June 30, 2022					
Balance at April 1, 2022	$ 171,918	$ 6,311	$ (4,092)	$ 1,020	$ 175,157
Reclassifications from AOCI to net income					
Losses on cash flow hedges included in interest expense	—	3,545	—	—	3,545
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(14)	(14)
Other amounts of other comprehensive income (loss)					
Net unrealized losses on available-for-sale securities	(27,967)	—	—	—	(27,967)
Unrealized gains on cash flow hedges	—	25,656	—	—	25,656
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	339	—	339
Total other comprehensive income (loss)	(27,967)	29,201	339	(14)	1,559
Balance at June 30, 2022	$ 143,951	$ 35,512	$ (3,753)	$ 1,006	$ 176,716
Three Months Ended June 30, 2021					
Balance at April 1, 2021	$ 328,511	$ (64,181)	$ (5,889)	$ 891	$ 259,332
Reclassifications from AOCI to net income					
Losses on cash flow hedges included in interest expense	—	5,562	—	—	5,562
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(12)	(12)
Other amounts of other comprehensive income (loss)					
Net unrealized losses on available-for-sale securities	(23,936)	—	—	—	(23,936)
Unrealized losses on cash flow hedges	—	(20,054)	—	—	(20,054)
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	506	—	506
Total other comprehensive income (loss)	(23,936)	(14,492)	506	(12)	(37,934)
Balance at June 30, 2021	$ 304,575	$ (78,673)	$ (5,383)	$ 879	$ 221,398

[1] Net unrealized gains (losses) on available-for-sale securities are net of unrealized gains and losses relating to hedged interest rate risk included in net income.

	Net Unrealized Gains (Losses) on Available-for-Sale Securities [(1)]	Net Unrealized Gains (Losses) on Cash Flow Hedges	Non-Credit Portion of Other-than-Temporary Impairment Losses on Held-to-Maturity Securities	Postretirement Benefits	Total AOCI
Six Months Ended June 30, 2022					
Balance at January 1, 2022	$ 241,060	$ (54,839)	$ (4,485)	$ 1,034	$ 182,770
Reclassifications from AOCI to net income					
Losses on cash flow hedges included in interest expense	—	8,842	—	—	8,842
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(28)	(28)
Other amounts of other comprehensive income (loss)					
Net unrealized losses on available-for-sale securities	(97,109)	—	—	—	(97,109)
Unrealized gains on cash flow hedges	—	81,509	—	—	81,509
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	732	—	732
Total other comprehensive income (loss)	(97,109)	90,351	732	(28)	(6,054)
Balance at June 30, 2022	$ 143,951	$ 35,512	$ (3,753)	$ 1,006	$ 176,716
Six Months Ended June 30, 2021					
Balance at January 1, 2021	$ 172,361	$ (119,602)	$ (6,402)	$ 903	$ 47,260
Reclassifications from AOCI to net income					
Losses on cash flow hedges included in interest expense	—	11,019	—	—	11,019
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(24)	(24)
Other amounts of other comprehensive income (loss)					
Net unrealized gains on available-for-sale securities	132,214	—	—	—	132,214
Unrealized gains on cash flow hedges	—	29,910	—	—	29,910
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	1,019	—	1,019
Total other comprehensive income (loss)	132,214	40,929	1,019	(24)	174,138
Balance at June 30, 2021	$ 304,575	$ (78,673)	$ (5,383)	$ 879	$ 221,398

[(1)] Net unrealized gains (losses) on available-for-sale securities are net of unrealized gains and losses relating to hedged interest rate risk included in net income.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of financial condition and results of operations should be read in conjunction with the financial statements and notes thereto included in "Item 1. Financial Statements."

Forward-Looking Information

This quarterly report contains forward-looking statements that reflect current beliefs and expectations of the Federal Home Loan Bank of Dallas (the "Bank") about its future results, performance, liquidity, financial condition, prospects and opportunities. These statements are identified by the use of forward-looking terminology, such as "anticipates," "plans," "believes," "could," "estimates," "may," "should," "would," "will," "might," "expects," "intends" or their negatives or other similar terms. The Bank cautions that forward-looking statements involve risks or uncertainties that could cause the Bank's actual results to differ materially from those expressed or implied in these forward-looking statements, or could affect the extent to which a particular objective, projection, estimate or prediction is realized. As a result, undue reliance should not be placed on these statements.

These risks and uncertainties include, without limitation, evolving economic and market conditions, political events, and the impact of competitive business forces. The risks and uncertainties related to evolving economic and market conditions include, but are not limited to, changes in interest rates, changes in the Bank's access to the capital markets, changes in the cost of the Bank's debt, changes in the ratings on the Bank's debt, the rate of inflation, adverse consequences resulting from a significant regional, national or global economic downturn (including, but not limited to, reduced demand for the Bank's products and services), credit and prepayment risks, changes in the financial health of the Bank's members or non-member borrowers and the effects from the COVID-19 pandemic and/or the Russia/Ukraine conflict. Among other things, political or other events could possibly lead to changes in the Bank's regulatory environment or its status as a government-sponsored enterprise ("GSE"), or to changes in the regulatory environment for the Bank's members or non-member borrowers. Risks and uncertainties related to competitive business forces include, but are not limited to, the potential loss of a significant amount of member borrowings through acquisitions or other means or changes in the relative competitiveness of the Bank's products and services for member institutions. For a more detailed discussion of the risk factors applicable to the Bank, see "Item 1A — Risk Factors" in the Bank's Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the Securities and Exchange Commission ("SEC") on March 23, 2022 (the "2021 10-K"). The Bank undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, changed circumstances, or any other reason.

Overview

Business

The Bank is one of 11 district Federal Home Loan Banks (each individually a "FHLBank" and collectively the "FHLBanks" and, together with the Federal Home Loan Banks Office of Finance ("Office of Finance"), a joint office of the FHLBanks, the "FHLBank System") that were created by the Federal Home Loan Bank Act of 1932. The FHLBanks serve the public by enhancing the availability of credit for residential mortgages, community lending and targeted community development. As independent, member-owned cooperatives, the FHLBanks seek to maintain a balance between their public purpose and their ability to provide adequate returns on the capital supplied by their members. The Federal Housing Finance Agency ("Finance Agency"), an independent agency in the executive branch of the U.S. government, is responsible for supervising and regulating the FHLBanks and the Office of Finance. The Finance Agency's stated mission is to ensure that the housing GSEs, including the FHLBanks, operate in a safe and sound manner so that they serve as a reliable source of liquidity and funding for housing finance and community investment. Consistent with this mission, the Finance Agency establishes policies and regulations covering the operations of the FHLBanks.

The Bank serves eligible financial institutions in Arkansas, Louisiana, Mississippi, New Mexico and Texas (collectively, the Ninth District of the FHLBank System). The Bank's primary business is lending relatively low cost funds (known as advances) to its member institutions, which include commercial banks, savings institutions, insurance companies, credit unions, and Community Development Financial Institutions that are certified under the Community Development Banking and Financial Institutions Act of 1994. While not members of the Bank, housing associates, including state and local housing authorities, that meet certain statutory criteria may also borrow from the Bank. The Bank also maintains a portfolio of investments, substantially all of which are highly rated, for liquidity purposes and to provide additional earnings. Additionally, the Bank holds interests in a portfolio of predominately conventional mortgage loans that were acquired through the Mortgage Partnership Finance® ("MPF"®) Program administered by the FHLBank of Chicago. Shareholders' return on their investment includes dividends (which are typically paid quarterly in the form of capital stock) and the value derived from access to the Bank's products and services. Historically, the Bank has balanced the financial rewards to shareholders by seeking to pay a dividend that meets or exceeds the return on alternative short-term money market investments available to shareholders, while lending funds at the lowest rates expected to be compatible with that objective and its objective to build retained earnings over time.

The Bank's capital stock is not publicly traded and can be held only by members of the Bank, by non-member institutions that acquire stock by virtue of acquiring member institutions, by a federal or state agency or insurer acting as a receiver of a closed institution, or by former members of the Bank that retain capital stock to support advances or other obligations that remain outstanding or until any applicable stock redemption or withdrawal notice period expires. All members must hold stock in the Bank. The Bank's capital stock has a par value of $100 per share and is purchased, redeemed, repurchased and transferred only at its par value. By regulation, the parties to a transaction involving the Bank's stock can include only the Bank and its member institutions (or non-member institutions or former members, as described above). While a member could transfer stock to another member of the Bank, that transfer could occur only upon approval of the Bank and then only at par value. Members may redeem excess stock, or withdraw from membership and redeem all outstanding capital stock, with five years' written notice to the Bank.

The FHLBanks' debt instruments (known as consolidated obligations) are their primary source of funds and are the joint and several obligations of all 11 FHLBanks. Consolidated obligations are issued through the Office of Finance (acting as agent for the FHLBanks) and generally are publicly traded in the over-the-counter market. The Bank records on its statements of condition only those consolidated obligations for which it receives the proceeds. Consolidated obligations are not obligations of the U.S. government and the U.S. government does not guarantee them. Consolidated obligations are currently rated Aaa/P-1 by Moody's Investors Service ("Moody's") and AA+/A-1+ by S&P Global Ratings ("S&P"). These ratings indicate that each of these nationally recognized statistical rating organizations ("NRSROs") has concluded that the FHLBanks have a very strong capacity to meet their commitments to pay principal and interest on consolidated obligations. The ratings also reflect the FHLBank System's status as a GSE. Historically, the FHLBanks' GSE status and very high credit ratings on consolidated obligations have provided the FHLBanks with excellent capital markets access. Deposits, other borrowings and the proceeds from capital stock issued to members are also sources of funds for the Bank.

In addition to ratings on the FHLBanks' consolidated obligations, each FHLBank is rated individually by both S&P and Moody's. These individual FHLBank ratings apply to the individual obligations of the respective FHLBanks, such as interest rate derivatives, deposits and letters of credit. As of June 30, 2022, Moody's had assigned a deposit rating of Aaa/P-1 to each of the FHLBanks and S&P had rated each of the FHLBanks AA+/A-1+.

Shareholders, bondholders and prospective shareholders and bondholders should understand that these credit ratings are not a recommendation to buy, hold or sell securities and they may be subject to revision or withdrawal at any time by the NRSRO. The ratings from each of the NRSROs should be evaluated independently.

The Bank conducts its business and fulfills its public purpose primarily by acting as a financial intermediary between its members and the capital markets. The intermediation of the timing, structure and amount of its members' credit needs with the investment requirements of the Bank's creditors is made possible by the extensive use of interest rate exchange agreements, including interest rate swaps, swaptions and caps.

The Bank's profitability objective is to generate sufficient earnings to allow the Bank to continue to increase its retained earnings and pay dividends on capital stock at rates that meet the Bank's dividend targets. All other things being equal, the Bank's earnings are typically expected to rise and fall with the general level of market interest rates, particularly short-term money market rates, and the Bank's total capital and asset size. Other factors that could have an effect on the Bank's future earnings include the level, volatility of and relationships between short-term money market rates such as federal funds, the Secured Overnight Financing Rate ("SOFR") and one-month and three-month LIBOR; the availability and cost of the Bank's short- and long-term debt relative to benchmark rates such as federal funds, SOFR, one- and three-month LIBOR, and long-term fixed mortgage rates; the availability of interest rate exchange agreements at competitive prices; whether the Bank's larger borrowers continue to be members of the Bank and the level at which they maintain their borrowing activity; the extent to which the Bank's members continue to sell mortgage loans to the Bank; and the impact of economic and financial market conditions on both the near-term and longer-term demand for the Bank's credit products.

Currently, the Bank's target for quarterly dividends on Class B-1 Stock is an annualized rate that approximates the average one-month LIBOR rate for the immediately preceding quarter. The target range for quarterly dividends on Class B-2 Stock is currently an annualized rate that approximates the average one-month LIBOR rate for the preceding quarter plus 0.5 - 1.0 percent. While the Bank has had a long-standing practice of paying quarterly dividends, future dividend payments cannot be assured.

The Bank operates in only one reportable segment. All of the Bank's revenues are derived from U.S. operations.

The following table summarizes the Bank's membership, by type of institution, as of June 30, 2022 and December 31, 2021.

MEMBERSHIP SUMMARY

	June 30, 2022	December 31, 2021
Commercial banks	544	552
Credit unions	125	126
Insurance companies	59	59
Savings institutions	52	54
Community Development Financial Institutions	7	7
Total members	787	798
Housing associates	8	8
Non-member borrowers	2	2
Total	797	808
Community Financial Institutions ("CFIs") [(1)]	505	521

(1) The figures shown reflect the number of institutions that were Community Financial Institutions as of June 30, 2022 and December 31, 2021 based upon the definitions of Community Financial Institutions that applied as of those dates.

For 2022, Community Financial Institutions ("CFIs") are defined to include all institutions insured by the Federal Deposit Insurance Corporation ("FDIC") with average total assets as of December 31, 2021, 2020 and 2019 of less than $1.323 billion. For 2021, CFIs were defined as FDIC-insured institutions with average total assets as of December 31, 2020, 2019 and 2018 of less than $1.239 billion.

Financial Market Conditions

During the first half of 2022, economic growth in the United States was negatively impacted by concerns about inflation, market volatility caused by Russia's invasion of Ukraine and the lingering impact of the novel coronavirus known as COVID-19, which was declared a global pandemic by the World Health Organization on March 11, 2020. The extent to which these concerns affect the Bank's business will depend on many factors that remain uncertain and difficult to predict including, but not limited to, the level of and rate at which fiscal or monetary stimulus is withdrawn; the length and extent of the Russia/Ukraine conflict; the duration, spread and severity of the pandemic; the actions taken to contain the pandemic; and how quickly and to what extent normal economic and operating conditions can resume.

The gross domestic product decreased at an annual rate of 0.9 percent during the second quarter of 2022, after decreasing at an annual rate of 1.6 percent during the first quarter of 2022 and increasing at an annual rate of 5.7 percent during the year ended December 31, 2021. The nationwide unemployment rate decreased from 3.9 percent at December 31, 2021 to 3.6 percent at both March 31, 2022 and June 30, 2022.

Throughout 2021 and early 2022, the Federal Open Market Committee ("FOMC") maintained its target for the federal funds rate at a range between 0 percent and 0.25 percent, noting that the COVID-19 outbreak had harmed communities and disrupted economic activity in many countries, including the United States, and had significantly affected global financial conditions. At its scheduled meeting held on March 15/16, 2022, the FOMC increased the target for the federal funds rate from a range between 0 percent and 0.25 percent to a range between 0.25 percent and 0.50 percent and stated that it anticipated that ongoing increases in the target range would be appropriate. In taking this action, the FOMC noted that indicators of economic activity had continued to strengthen, job gains had been strong, and the unemployment rate had declined substantially. Inflation remained elevated, reflecting supply and demand imbalances related to the pandemic, higher energy prices, and broader price pressures. Further, the invasion of Ukraine by Russia was causing tremendous human and economic hardship. The FOMC further noted that the implications for the U.S. economy were at that time highly uncertain, but in the near term the invasion and related events were likely to create additional upward pressure on inflation and weigh on economic activity.

At its scheduled meetings held on May 3/4, 2022, June 14/15, 2022 and July 26/27, 2022, the FOMC increased the target for the federal funds rate by 0.50 percent, 0.75 percent and 0.75 percent, respectively, to a current range between 2.25 percent and 2.50 percent and reiterated its stance that ongoing increases in the target range will be appropriate.

In 2020, in response to the instability caused by the COVID-19 pandemic, the FOMC stated that, to support the smooth functioning of markets for Treasury securities and agency MBS that are central to the flow of credit to households and businesses, it would increase its holdings of Treasury securities by at least $500 billion and its holdings of agency MBS by at least $200 billion and would reinvest all principal payments from the Federal Reserve's holdings of agency debt and agency

MBS in agency MBS. At its scheduled meeting on November 2/3, 2021, the FOMC stated that, in light of the substantial further progress the economy had made toward the FOMC's goals since December 2020, it would begin reducing the monthly pace of its net asset purchases by $10 billion for Treasury securities and $5 billion for agency MBS. Beginning in November 2021, the FOMC stated it would increase its holdings of Treasury securities by at least $70 billion per month (down from $80 billion per month in then recent months) and of agency MBS by at least $35 billion per month (down from $40 billion per month in then recent months). Beginning in December 2021, the FOMC would increase its holdings of Treasury securities by at least $60 billion per month and of agency MBS by at least $30 billion per month. On January 26, 2022, the FOMC announced that it would continue to reduce the monthly pace of its net asset purchases, bringing them to an end in March 2022. At its May 3/4, 2022 meeting, the FOMC announced that it would begin reducing its holdings of Treasury securities and agency debt and agency MBS on June 1, 2022. Beginning on that date, principal payments from its holdings of Treasury securities and agency debt and agency MBS are reinvested to the extent that they exceed monthly caps. For Treasury securities, the cap was initially set at $30 billion per month and after three months would increase to $60 billion per month. For agency debt and agency MBS, the cap was initially set at $17.5 billion per month and after three months would increase to $35 billion per month.

The following table presents information on various market interest rates at June 30, 2022 and December 31, 2021 and various average market interest rates for the three and six-month periods ended June 30, 2022 and 2021.

	Ending Rate		Average Rate		Average Rate	
	June 30, 2022	December 31, 2021	Second Quarter 2022	Second Quarter 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Federal Funds Target (1)	1.75%	0.25%	0.96%	0.25%	0.63%	0.25%
Average Effective Federal Funds Rate (2)	1.58%	0.07%	0.77%	0.07%	0.45%	0.07%
SOFR (3)	1.50%	0.05%	0.71%	0.02%	0.40%	0.03%
1-month LIBOR (3)	1.79%	0.10%	1.02%	0.10%	0.61%	0.11%
3-month LIBOR (3)	2.29%	0.21%	1.53%	0.16%	1.02%	0.18%
2-year LIBOR (3)	3.28%	0.94%	3.03%	0.27%	2.35%	0.25%
5-year LIBOR (3)	3.08%	1.37%	3.00%	0.92%	2.47%	0.81%
10-year LIBOR (3)	3.09%	1.58%	2.99%	1.57%	2.51%	1.46%
3-month U.S. Treasury (3)	1.72%	0.06%	1.10%	0.03%	0.71%	0.04%
2-year U.S. Treasury (3)	2.92%	0.73%	2.72%	0.17%	2.10%	0.15%
5-year U.S. Treasury (3)	3.01%	1.26%	2.95%	0.84%	2.40%	0.73%
10-year U.S. Treasury (3)	2.98%	1.52%	2.93%	1.59%	2.45%	1.47%

(1) Source: Bloomberg (reflects upper end of target range)

(2) Source: Federal Reserve Statistical Release

(3) Source: Bloomberg

Year-to-Date 2022 Summary

- The Bank ended the second quarter of 2022 with total assets of $77.7 billion compared with $63.5 billion at the end of 2021. The $14.2 billion increase in total assets for the six months ended June 30, 2022 was attributable primarily to increases in the Bank's advances ($11.8 billion), short-term liquidity holdings ($3.7 billion) and mortgage loans held for portfolio ($0.5 billion), partially offset by a decrease in the Bank's long-term investments ($1.8 billion).
- Total advances increased from $24.6 billion at December 31, 2021 to $36.4 billion at June 30, 2022. For the three and six months ended June 30, 2022, the Bank's average advances were $40.7 billion and $36.8 billion, respectively. The Bank's average advances for the three and six months ended June 30, 2022 were aided by intra-month borrowings by certain credit union members, which may or may not continue.
- Mortgage loans held for portfolio increased from $3.5 billion at December 31, 2021 to $4.0 billion at June 30, 2022.
- The Bank’s net income for the three and six months ended June 30, 2022 was $65.6 million and $106.7 million, respectively, as compared to $28.0 million and $75.9 million, respectively, during the corresponding periods in 2021. For discussion and analysis of the changes in net income, see the section entitled "Results of Operations" beginning on page 62 of this report.

- At all times during the first six months of 2022, the Bank was in compliance with all of its regulatory capital requirements. In addition, the Bank's retained earnings increased to $1.657 billion at June 30, 2022 from $1.558 billion at December 31, 2021. Retained earnings was 2.1 percent and 2.5 percent of total assets at June 30, 2022 and December 31, 2021, respectively.
- During the first six months of 2022, the Bank paid dividends totaling $8.1 million. The Bank's first quarter 2022 dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 0.09 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2021) and 1.09 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2021 plus 1.0 percent), respectively. The Bank's second quarter 2022 dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 0.23 percent (a rate equal to average one-month LIBOR for the first quarter of 2022) and 1.23 percent (a rate equal to average one-month LIBOR for the first quarter of 2022 plus 1.0 percent), respectively.

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Selected Financial Data

SELECTED FINANCIAL DATA
(dollars in thousands)

	2022		2021		
	Second Quarter	First Quarter	Fourth Quarter	Third Quarter	Second Quarter
Balance sheet (at quarter end)					
Advances	$ 36,375,762	$ 26,763,391	$ 24,637,464	$ 24,775,990	$ 24,922,369
Investments [1]	37,053,619	31,255,476	34,653,202	31,686,391	30,152,031
Mortgage loans held for portfolio	3,988,963	3,734,495	3,494,389	3,341,124	3,209,558
Allowance for credit losses on mortgage loans	3,091	3,802	3,124	3,303	3,487
Total assets	77,714,724	62,605,541	63,488,376	60,202,756	58,627,159
Consolidated obligations — discount notes	29,622,896	15,062,428	11,003,026	5,155,955	11,371,181
Consolidated obligations — bonds	40,944,088	41,475,972	44,514,220	49,193,449	41,615,443
Total consolidated obligations[2]	70,566,984	56,538,400	55,517,246	54,349,404	52,986,624
Mandatorily redeemable capital stock[3]	13,698	15,980	6,657	6,653	6,690
Capital stock — putable	2,798,381	2,291,216	2,192,504	2,154,894	2,092,739
Unrestricted retained earnings	1,368,930	1,320,857	1,291,656	1,257,514	1,227,838
Restricted retained earnings	288,095	274,985	266,761	257,317	249,065
Total retained earnings	1,657,025	1,595,842	1,558,417	1,514,831	1,476,903
Accumulated other comprehensive income	176,716	175,157	182,770	193,366	221,398
Total capital	4,632,122	4,062,215	3,933,691	3,863,091	3,791,040
Dividends paid[3]	4,368	3,693	3,634	3,333	3,322
Income statement (for the quarter)					
Net interest income after provision (reversal) for mortgage loan losses[4]	$ 102,098	$ 90,185	$ 79,073	$ 67,257	$ 51,162
Other income (loss)	(5,712)	(20,831)	1,563	4,600	5,656
Other expense	23,547	23,667	28,170	26,010	25,680
AHP assessment	7,288	4,569	5,246	4,586	3,115
Net income	65,551	41,118	47,220	41,261	28,023
Performance ratios					
Net interest margin[4][5]	0.59 %	0.59 %	0.51 %	0.46 %	0.34 %
Net interest spread [4][6]	0.51	0.57	0.50	0.45	0.33
Return on average assets	0.38	0.27	0.31	0.28	0.19
Return on average equity	5.91	4.18	4.76	4.21	2.95
Return on average capital stock [7]	10.04	7.49	8.51	7.45	5.39
Total average equity to average assets	6.51	6.48	6.42	6.58	6.43
Regulatory capital ratio[8]	5.75	6.23	5.92	6.11	6.10
Dividend payout ratio [3][9]	6.66	8.98	7.70	8.08	11.85

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

(2) The Bank is jointly and severally liable with the other FHLBanks for the payment of principal and interest on the consolidated obligations of all of the FHLBanks. At June 30, 2022, March 31, 2022, December 31, 2021, September 30, 2021 and June 30, 2021, the outstanding consolidated obligations (at par value) of all of the FHLBanks totaled approximately $882 billion, $700 billion, $653 billion, $641 billion and $667 billion, respectively. As of those dates, the Bank's outstanding consolidated obligations (at par value) were $72 billion, $58 billion, $56 billion, $54 billion and $53 billion, respectively.

(3) Mandatorily redeemable capital stock represents capital stock that is classified as a liability under accounting principles generally accepted in the United States of America ("U.S. GAAP"). Dividends on mandatorily redeemable capital stock are recorded as interest expense and excluded from dividends paid. Dividends paid on mandatorily redeemable capital stock totaled $6 thousand, $3 thousand, $3 thousand, $5 thousand and $8 thousand for the quarters ended June 30, 2022, March 31, 2022, December 31, 2021, September 30, 2021 and June 30, 2021, respectively.

(4) Under U.S. GAAP, changes in the fair value of a derivative in a qualifying fair value hedge along with changes in the fair value of the hedged asset or liability attributable to the hedged risk (the net amount of which is referred to as fair value hedge ineffectiveness) are recorded in net interest income. Fair value hedge ineffectiveness increased (reduced) net interest income by $1.4 million, $12.4 million, $1.1 million, $8.9 million and ($5.8 million) for the quarters ended June 30, 2022, March 31, 2022, December 31, 2021, September 30, 2021 and June 30, 2021, respectively. For additional discussion, see the section entitled "Results of Operations" beginning on page 62 of this report.

(5) Net interest margin is net interest income as a percentage of average earning assets.

(6) Net interest spread is the difference between the yield on interest-earning assets and the cost of interest-bearing liabilities.

(7) Return on average capital stock is derived by dividing net income by average capital stock balances excluding mandatorily redeemable capital stock.

(8) The regulatory capital ratio is computed by dividing regulatory capital (the sum of capital stock — putable, mandatorily redeemable capital stock and retained earnings) by total assets at each quarter-end.

(9) Dividend payout ratio is computed by dividing dividends paid by net income for each quarter.

Legislative and Regulatory Developments

Proposed Rule on Climate-related Disclosures

On March 21, 2022, the SEC issued a proposed rule that would mandate and standardize climate-related disclosures in annual reports that are filed with the SEC. If finalized as proposed, the rule would require the Bank to disclose:

- its direct and certain indirect greenhouse gas emissions;
- any climate transition plan and/or any climate-related targets or goals, and progress toward any such plan, targets or goals;
- its climate-related risks over various time horizons and their impacts on the Bank's business;
- the assumptions and projected financial impacts from any climate-related risk scenario analyses;
- climate-related financial statement metrics and related information, both qualitative and quantitative, in the notes to its financial statements; and
- its corporate governance of climate-related risks and risk management processes.

If the proposed rule's requirements become effective in 2022, the Bank would become subject to most of the disclosure requirements in its Annual Report on Form 10-K for the year ending December 31, 2024 with the balance of the disclosure requirements becoming effective for its Annual Report on Form 10-K for the year ending December 31, 2025.

Comments on the proposed rule were due by no later than June 17, 2022. If finalized in its current form, the rule is expected to increase the Bank's regulatory compliance costs. While those costs are not expected to be insignificant, they would not be expected to have a material impact on the Bank's financial condition or results of operations.

Finance Agency's Planned Review and Analysis of the FHLBanks

On July 20, 2022, Finance Agency Director Sandra L. Thompson provided testimony to the U.S. House Committee on Financial Services during which she indicated the Finance Agency intends to conduct a review and analysis of the FHLBanks to ensure that they are positioned to continue to serve the needs of today and tomorrow. Director Thompson testified that, as part of its review and analysis, the Finance Agency plans to engage a variety of stakeholders in the coming months, in addition to holding public listening sessions throughout the country. Director Thompson further indicated that the Finance Agency wants this review to be an opportunity to examine everything from the FHLBanks' membership base, operational efficiency, and effectiveness to more foundational questions about their mission, purpose, and organization. At this time, the Bank is unable to predict whether any actions will result from the Finance Agency's forthcoming review and analysis.

Proposed Rule Implementing the Adjustable Interest Rate (LIBOR) Act

On July 28, 2022, the Board of Governors of the Federal Reserve System published a proposed rule that would implement the Adjustable Interest Rate (LIBOR) Act that was signed into law on March 15, 2022. The proposed rule would provide default rules for certain contracts (covered contracts) that: (i) reference LIBOR; (ii) are governed by U.S. law; (iii) do not mature on or before the LIBOR replacement date; and (iv) lack adequate provisions to identify a replacement rate for LIBOR. The proposed rule identifies separate replacement rates for derivative transactions, covered GSE contracts, and all other covered contracts. The proposed rule defines covered GSE contracts to include, among other things, FHLBank advances. Comments on the proposed rule are due by no later than August 29, 2022. At most, the proposed rule would have applicability to approximately $198 million (unpaid principal balance) of the Bank's variable-rate held-to-maturity securities. None of the Bank's liabilities nor any of its other assets would be impacted by the proposed rule as adequate fallback provisions are already in place for those instruments that are indexed to LIBOR. The Bank is currently reviewing the proposed rule and has not yet assessed the impact that it could have on its future result of operations. For additional discussion, see the section entitled "LIBOR Phase-Out" beginning on page 61 of this report.

Amendment to FINRA Rule 4210: Margining of Covered Agency Transactions

On July 29, 2022, the Financial Industry Regulatory Authority, Inc. ("FINRA") extended, to April 24, 2023, the implementation date of its amendments to FINRA Rule 4210 which establish margin requirements for forward-settling transactions in the to be announced ("TBA") market. When the margining requirements become effective, the Bank may be required to collateralize transactions that occur in the TBA market. In any event, the costs associated with those transactions are likely to increase.

Financial Condition

The following table provides selected period-end balances as of June 30, 2022 and December 31, 2021, as well as selected average balances for the six-month period ended June 30, 2022 and the year ended December 31, 2021. As shown in the table, the Bank's total assets increased by 22.4 percent between December 31, 2021 and June 30, 2022, due primarily to increases in the Bank's advances, short-term liquidity holdings and mortgage loans held for portfolio, partially offset by a decrease in the Bank's long-term investments. Total consolidated obligations increased by $15.0 billion during the six months ended June 30, 2022 as consolidated obligation discount notes increased by $18.6 billion and consolidated obligation bonds decreased by $3.6 billion. Liabilities associated with traded not settled securities declined by $1.7 billion. The activity in each of the major balance sheet captions is discussed in the sections following the table.

SUMMARY OF CHANGES IN FINANCIAL CONDITION
(dollars in millions)

	June 30, 2022			Balance at
		Increase (Decrease)		
	Balance	Amount	Percentage	December 31, 2021
Advances	$ 36,376	$ 11,739	47.6 %	$ 24,637
Short-term liquidity holdings				
Non-interest bearing excess cash balances	—	(515)	(100.0)%	515
Interest-bearing deposits	915	29	3.3 %	886
Securities purchased under agreements to resell	14,200	3,550	33.3 %	10,650
Federal funds sold	6,344	1,563	32.7 %	4,781
Trading securities				
U.S. Treasury Bills	823	(1,427)	(63.4)%	2,250
U.S. Treasury Notes	590	493	508.2 %	97
Total short-term liquidity holdings	22,872	3,693	19.3 %	19,179
Long-term investments				
Trading securities (U.S. Treasury Note)	102	(6)	(5.6)%	108
Available-for-sale securities	13,632	(1,656)	(10.8)%	15,288
Held-to-maturity securities	447	(147)	(24.7)%	594
Total long-term investments	14,181	(1,809)	(11.3)%	15,990
Mortgage loans held for portfolio, net	3,986	495	14.2 %	3,491
Total assets	77,715	14,227	22.4 %	63,488
Consolidated obligations				
Consolidated obligations — bonds	40,944	(3,570)	(8.0)%	44,514
Consolidated obligations — discount notes	29,623	18,620	169.2 %	11,003
Total consolidated obligations	70,567	15,050	27.1 %	55,517
Mandatorily redeemable capital stock	14	7	100.0 %	7
Capital stock	2,798	605	27.6 %	2,193
Retained earnings	1,657	99	6.4 %	1,558
Average total assets	65,012	5,167	8.6 %	59,845
Average capital stock	2,424	294	13.8 %	2,130
Average mandatorily redeemable capital stock	11	3	37.5 %	8

Advances

The Bank's advances balances (at par value) increased by $12.2 billion (50 percent) during the first six months of 2022. Aside from insurance company members, the increase in advances was spread broadly across the Bank's membership. The Bank believes the increase in advances was due in part to a modest decline in members' liquidity levels and healthy demand for loans at member institutions. Some of the Bank's larger members also used advances to fund investment activities. With an increase of $4.6 billion (247 percent), the Bank's savings institution members had the largest percentage increase in advances during the first half of the year. The increase for this segment of the Bank's membership was driven by new advances to Beal Bank USA ($3.4 billion) and USAA Federal Savings Bank ($1.0 billion). With these new borrowings, Beal Bank USA was the Bank's largest borrower at June 30, 2022.

The following table presents advances outstanding, by type of institution, as of June 30, 2022 and December 31, 2021.

ADVANCES OUTSTANDING BY BORROWER TYPE
(par value, dollars in millions)

	June 30, 2022		December 31, 2021	
	Amount	Percent	Amount	Percent
Commercial banks	$ 17,168	47 %	$ 13,181	54 %
Insurance companies	6,876	19	6,814	28
Savings institutions	6,529	18	1,880	8
Credit unions	5,755	16	2,396	10
Community Development Financial Institutions	25	—	25	—
Total member advances	36,353	100	24,296	100
Housing associates	53	—	116	—
Non-member borrowers	160	—	—	—
Total par value of advances	$ 36,566	100 %	$ 24,412	100 %
Total par value of advances outstanding to CFIs [(1)]	$ 3,971	11 %	$ 3,153	13 %

(1) The figures shown reflect the advances outstanding to CFIs as of June 30, 2022 and December 31, 2021 based upon the definitions of CFIs that applied as of those dates.

At June 30, 2022, advances outstanding to the Bank's five largest borrowers totaled $13.4 billion, representing 36.6 percent of the Bank's total outstanding advances as of that date. In comparison, advances outstanding to the Bank's five largest borrowers as of December 31, 2021 totaled $10.1 billion, representing 41.4 percent of the total outstanding advances at that date. The following table presents the Bank's five largest borrowers as of June 30, 2022.

FIVE LARGEST BORROWERS AS OF JUNE 30, 2022
(par value, dollars in millions)

Name	Par Value of Advances	Percent of Total Par Value of Advances
Beal Bank USA	$ 3,400	9.3 %
American General Life Insurance Company	3,148	8.6
Texas Capital Bank, N.A.	2,650	7.3
Life Insurance Company of the Southwest	2,123	5.8
NexBank	2,050	5.6
	$ 13,371	36.6 %

The following table presents information regarding the composition of the Bank's advances by product type as of June 30, 2022 and December 31, 2021.

ADVANCES OUTSTANDING BY PRODUCT TYPE
(par value, dollars in millions)

	June 30, 2022		December 31, 2021	
	Balance	Percentage of Total	Balance	Percentage of Total
Fixed-rate	$ 29,742	81.3 %	$ 17,583	72.0 %
Adjustable/variable-rate indexed	5,948	16.3	5,792	23.7
Amortizing	876	2.4	1,037	4.3
Total par value	$ 36,566	100.0 %	$ 24,412	100.0 %

The Bank is required by statute and regulation to obtain sufficient collateral from members/borrowers to fully secure all advances and other extensions of credit. The Bank's collateral arrangements with its members/borrowers and the types of collateral it accepts to secure advances are described in the 2021 10-K. To ensure the value of collateral pledged to the Bank is sufficient to secure its advances, the Bank applies various haircuts, or discounts, to determine the value of the collateral against which borrowers may borrow. From time to time, the Bank reevaluates the adequacy of its collateral haircuts under a range of stress scenarios to ensure that its collateral haircuts are sufficient to protect the Bank from credit losses on advances.

In addition, as described in the 2021 10-K, the Bank reviews the financial condition of its depository institution borrowers on at least a quarterly basis to identify any borrowers whose financial condition indicates they might pose an increased credit risk and, as needed, takes appropriate action. The Bank has not experienced any credit losses on advances since it was founded in 1932 and, based on its credit extension and collateral policies, management currently does not anticipate any credit losses on advances. Accordingly, the Bank has not provided any allowance for losses on advances.

Short-Term Liquidity Holdings

At June 30, 2022, the Bank's short-term liquidity holdings were comprised of a $14.2 billion overnight reverse repurchase agreement transacted with the Federal Reserve Bank of New York, $6.3 billion of overnight federal funds sold, $0.9 billion of overnight interest-bearing deposits, $0.8 billion of U.S. Treasury Bills and $0.6 billion of U.S. Treasury Notes. At December 31, 2021, the Bank's short-term liquidity portfolio was comprised of a $10.7 billion overnight reverse repurchase agreement transacted with the Federal Reserve Bank of New York, $4.8 billion of overnight federal funds sold, $2.2 billion of U.S. Treasury Bills, $0.9 billion of overnight interest-bearing deposits, $0.5 billion of excess cash held at the Federal Reserve and $0.1 billion of U.S. Treasury Notes. All of the Bank's federal funds sold during the six months ended June 30, 2022 were transacted with domestic bank counterparties, U.S. subsidiaries of foreign holding companies or U.S. branches of foreign financial institutions on an overnight basis. All of the Bank's interest-bearing deposits were transacted on an overnight basis with domestic bank counterparties.

As of June 30, 2022, the Bank's overnight federal funds sold consisted of $2.6 billion sold to counterparties rated double-A, $3.3 billion sold to counterparties rated single-A and $0.4 billion sold to counterparties rated triple-B. At that same date, substantially all of the Bank's interest-bearing deposits were held in single-A rated banks. The credit ratings presented in the two preceding sentences represent the lowest long-term rating assigned to the counterparty by Moody's or S&P.

The amount of the Bank's short-term liquidity holdings fluctuates in response to several factors, including the anticipated demand for advances, the timing and extent of advance maturities and prepayments, changes in the Bank's deposit balances, the Bank's pre-funding activities, prevailing conditions (or anticipated changes in conditions) in the short-term debt markets, the level of liquidity needed to satisfy Finance Agency requirements and the Finance Agency's expectations with regard to the Bank's core mission achievement. For a discussion of the Finance Agency's liquidity requirements, see the section below entitled "Liquidity and Capital Resources." For a discussion of the Finance Agency's guidance regarding core mission achievement, see Item 1 - Business - Core Mission Achievement in the 2021 10-K. For the six months ended June 30, 2022, the Bank's core mission asset ("CMA") ratio was 72.4 percent. In comparison, the Bank's CMA ratio was 66.4 percent for the year ended December 31, 2021.

Long-Term Investments

The composition of the Bank's long-term investment portfolio at June 30, 2022 and December 31, 2021 is set forth in the table below.

COMPOSITION OF LONG-TERM INVESTMENT PORTFOLIO
(in millions)

June 30, 2022	Balance Sheet Classification Held-to-Maturity (at carrying value)	Available-for-Sale (at fair value)	Trading (at fair value)	Total Long-Term Investments (at carrying value)	Held-to-Maturity (at fair value)
Debentures					
U.S. government-guaranteed obligations	$ 1	$ 286	$ 102	$ 389	$ 1
GSE obligations	—	3,305	—	3,305	—
Total debentures	1	3,591	102	3,694	1
Mortgage-backed securities ("MBS") portfolio					
GSE residential MBS	418	—	—	418	419
GSE commercial MBS	—	10,041	—	10,041	—
Non-agency residential MBS	28	—	—	28	34
Total MBS	446	10,041	—	10,487	453
Total long-term investments	$ 447	$ 13,632	$ 102	$ 14,181	$ 454

December 31, 2021	Balance Sheet Classification Held-to-Maturity (at carrying value)	Available-for-Sale (at fair value)	Trading (at fair value)	Total Long-Term Investments (at carrying value)	Held-to-Maturity (at fair value)
Debentures					
U.S. government-guaranteed obligations	$ 2	$ 418	$ 108	$ 528	$ 2
GSE obligations	—	4,546	—	4,546	—
State housing agency obligation	75	—	—	75	75
Other	—	38	—	38	—
Total debentures	77	5,002	108	5,187	77
Mortgage-backed securities portfolio					
GSE residential MBS	485	—	—	485	489
GSE commercial MBS	—	10,286	—	10,286	—
Non-agency residential MBS	32	—	—	32	40
Total MBS	517	10,286	—	10,803	529
Total long-term investments	$ 594	$ 15,288	$ 108	$ 15,990	$ 606

The Bank did not sell any long-term investments during the six months ended June 30, 2022 or 2021. During the six months ended June 30, 2022, proceeds from maturities, prepayments and paydowns of held-to-maturity securities and available-for-sale securities totaled approximately $147 million and $1.724 billion, respectively. During the six months ended June 30, 2021, proceeds from maturities, prepayments and paydowns of held-to-maturity securities and available-for-sale securities totaled approximately $160 million and $131 million, respectively. During the three and six months ended June 30, 2022, 10 and 20 GSE commercial MBS ("CMBS") with aggregate par values of $217 million and $516 million, respectively, were prepaid. In connection with these prepayments, the Bank received yield maintenance fees totaling $4.4 million and $25.0 million, respectively. The yield maintenance fees are recorded in interest income on available-for-sale securities, net of unamortized purchase premiums or discounts and hedge basis adjustments on the prepaid securities. The net amounts recorded in net interest income totaled $11.6 million and $24.4 million for the three and six months ended June 30, 2022, respectively. There were no prepayments of GSE CMBS during the six months ended June 30, 2021.

The Bank is precluded by regulation from purchasing additional MBS if such purchase would cause the aggregate amortized historical cost of its MBS holdings to exceed 300 percent of the Bank's total regulatory capital (the sum of its capital stock, mandatorily redeemable capital stock and retained earnings). However, the Bank is not required to sell any mortgage securities that it purchased at a time when it was in compliance with this ratio. For purposes of applying this limit, the Finance Agency defines "amortized historical cost" as the sum of the initial investment, less the amount of cash collected that reduces principal, less write-downs plus yield accreted to date. This definition excludes hedge basis adjustments which, for investment securities, are included in the U.S. GAAP definition of amortized cost basis. Under this definition, the Bank's MBS holdings totaled $10.7

billion as of June 30, 2022, which represented 239 percent of its total regulatory capital at that date. Given the constraints imposed by the Finance Agency's guidance regarding core mission achievement, the Bank did not purchase any MBS in 2020, 2021 or the first three months of 2022. With capacity to purchase MBS and its year-to-date CMA ratio above 70 percent, the Bank acquired (based on trade date) $1.1 billion of GSE CMBS during the three months ended June 30, 2022. All of the Bank's CMBS holdings are backed by multi-family loans. To the extent it has capacity, the Bank intends to continue to purchase GSE CMBS if attractive opportunities are available and provided it is reasonably confident (at the time of purchase) that it can maintain its CMA ratio at or above 70 percent.

In addition to MBS, the Bank is also permitted under applicable policies and regulations to purchase certain other types of highly rated, long-term, non-MBS investments subject to certain limits. These investments include but are not limited to the non-MBS debt obligations of other GSEs. The Bank has not purchased any long-term, non-MBS investments since October 2019 and it does not currently intend to purchase additional long-term, non-MBS investments in the near future.

The Bank evaluates all outstanding available-for-sale securities in an unrealized loss position and all outstanding held-to-maturity securities as of the end of each calendar quarter to determine whether an allowance is needed to reserve for expected credit losses on the securities. As of June 30, 2022, the Bank determined that an allowance for credit losses was not necessary on any of its held-to-maturity or available-for-sale securities. For a summary of the Bank's evaluation, see “Item 1. Financial Statements” (specifically, Note 9 beginning on page 15 of this report).

As of June 30, 2022, the U.S. government and the issuers of the Bank's holdings of GSE debentures and GSE MBS were rated triple-A by Moody's and AA+ by S&P.

All but one of the Bank’s non-agency residential MBS ("RMBS") are rated by Moody’s and/or S&P. The following table presents the credit ratings assigned to the Bank’s non-agency RMBS holdings as of June 30, 2022. The credit ratings presented in the table represent the lowest rating assigned to the security by Moody’s or S&P.

NON-AGENCY RMBS CREDIT RATINGS

(dollars in thousands)

Credit Rating	Number of Securities	Unpaid Principal Balance	Amortized Cost	Carrying Value	Estimated Fair Value	Unrealized Losses
Double-A	1	$ 688	$ 688	$ 688	$ 634	$ 54
Single-A	2	4,660	4,660	4,660	4,400	260
Triple-B	2	1,349	1,349	1,349	1,302	47
Single-B	4	7,355	7,199	6,666	6,779	485
Triple-C	11	21,983	17,220	14,343	19,841	581
Single-D	1	1,521	565	222	1,261	—
Not Rated	1	38	38	38	37	1
Total	22	$ 37,594	$ 31,719	$ 27,966	$ 34,254	$ 1,428

At June 30, 2022, the Bank’s portfolio of non-agency RMBS was comprised of 3 securities with an aggregate unpaid principal balance of $4 million that are backed by first lien fixed-rate loans and 19 securities with an aggregate unpaid principal balance of $34 million that are backed by first lien option adjustable-rate mortgage (“option ARM”) loans. In comparison, as of December 31, 2021, the Bank’s portfolio of non-agency RMBS was comprised of 3 securities backed by fixed-rate loans that had an aggregate unpaid principal balance of $4 million and 19 securities backed by option ARM loans that had an aggregate unpaid principal balance of $39 million.

While substantially all of the Bank's RMBS portfolio is comprised of collateralized mortgage obligations ("CMOs") with variable-rate coupons ($0.5 billion par value at June 30, 2022) that do not expose it to interest rate risk if interest rates rise moderately, these securities include caps that would limit increases in the variable-rate coupons if short-term interest rates rise above the caps. In addition, if interest rates rise, prepayments on the mortgage loans underlying the securities would likely decline, thus lengthening the time that the securities would remain outstanding with their coupon rates capped. As of June 30, 2022, one-month LIBOR was 1.79 percent and the effective interest rate caps on one-month LIBOR (the interest cap rate minus the stated spread on the coupon) embedded in the CMO floaters ranged from 5.95 percent to 10.46 percent. The largest concentration of embedded effective caps ($0.4 billion) was between 6.00 percent and 7.00 percent. As of June 30, 2022, one-month LIBOR rates were 416 basis points below the lowest effective interest rate cap embedded in the CMO floaters.

Mortgage Loans Held For Portfolio

As of June 30, 2022 and December 31, 2021, mortgage loans held for portfolio (net of allowance for credit losses) were $4.0 billion and $3.5 billion, respectively, representing approximately 5.1 percent and 5.5 percent, respectively, of the Bank's total assets at those dates. Through the MPF program, the Bank currently invests in only conventional residential mortgage loans originated by its participating financial institutions ("PFIs"). During the period from 1998 to mid-2003, the Bank purchased conventional mortgage loans and government-guaranteed/insured mortgage loans (i.e., those insured or guaranteed by the Federal Housing Administration or the Department of Veterans Affairs). The Bank resumed acquiring conventional mortgage loans under this program in early 2016. Approximately $3.922 billion of the $3.929 billion (unpaid principal balance) of mortgage loans on the Bank's balance sheet at June 30, 2022 were conventional loans, almost all of which were acquired since 2016. The remaining $7 million (unpaid principal balance) of the mortgage loan portfolio is comprised of government-guaranteed or government-insured loans that were acquired during the period from 1998 to mid-2003.

During the three and six months ended June 30, 2022, the Bank acquired mortgage loans totaling $405 million ($407 million unpaid principal balance) and $814 million ($818 million unpaid principal balance), respectively. In comparison, the Bank acquired mortgage loans totaling $368 million ($360 million unpaid principal balance) and $548 million ($537 million unpaid principal balance) during the three and six months ended June 30, 2021, respectively. All of the acquired mortgage loans were originated by certain of the Bank's PFIs and the Bank acquired a 100 percent interest in such loans. The Bank's mortgage loan purchases were lower in early 2021 as pricing remained generally unattractive in the wake of the Federal Reserve's response to the COVID-19 pandemic. With relatively better pricing during the first six months of 2022, the Bank's mortgage loan purchases increased. In addition, with the low level of mortgage interest rates during the first half of 2021, mortgage prepayment activity was relatively high during that period. During the first half of 2022, increasing mortgage interest rates led to a significant reduction in mortgage prepayment activity. During the three and six months ended June 30, 2022, mortgage loan prepayments totaled $115 million and $253 million, respectively, compared to $336 million and $699 million during the three and six months ended June 30, 2021, respectively.

The Bank manages the liquidity, interest rate and prepayment risk of these loans, while the PFIs or their designees retain the servicing activities. The Bank and the PFIs share in the credit risk of the loans with the Bank assuming a limited first loss obligation defined as the First Loss Account ("FLA"), and the PFIs assuming credit losses in excess of the FLA, up to the amount of the required credit enhancement obligation ("CE Obligation") as specified in the master agreement ("Second Loss Credit Enhancement"). The FLA is a memo account that is used to track the Bank's exposure to losses until the CE Obligation is available to cover losses. The CE Obligation is the amount of credit enhancement needed for a master commitment to have an estimated rating that is equivalent to an investment grade rated MBS. Credit enhancement levels are set by the Bank using an NRSRO model and are currently set at a triple-B equivalent. The Bank assumes all losses in excess of the Second Loss Credit Enhancement.

Under the Finance Agency's Acquired Member Asset regulation (12 C.F.R. part 1268), any portion of the CE Obligation that is a PFI's direct liability must be collateralized by the PFI in the same way that advances are collateralized. Accordingly, the PFI Agreement provides that the PFI's obligations under the PFI Agreement are secured along with other obligations of the PFI under its regular advances agreement with the Bank and, further, that the Bank may request additional collateral to secure the PFI's obligations. PFIs are paid credit enhancement fees ("CE fees") as compensation for retaining a portion of the credit risk on the loans sold to the Bank, as an incentive to minimize credit losses on those loans, to share in the risk of loss on MPF loans and, in limited cases related to loans acquired prior to 2016, to pay for supplemental mortgage insurance, rather than paying a guaranty fee to other secondary market purchasers. CE fees are paid monthly and are determined based on the remaining unpaid principal balance of the MPF loans during the applicable month. CE fees are recorded as a reduction to mortgage loan interest income when paid by the Bank. Mortgage loan interest income was reduced by CE fees totaling $539,000 and $454,000 during the three months ended June 30, 2022 and 2021, respectively, and $1,047,000 and $944,000 during the six months ended June 30, 2022 and 2021, respectively. The Bank's allowance for loan losses, which factors in the CE obligation, was $3,091,000 and $3,124,000 at June 30, 2022 and December 31, 2021, respectively.

For the Bank's conventional loans, loan payment forbearance is offered to borrowers impacted by COVID-19. The forbearance allows a borrower to defer loan payments for 3 months without requiring documentation from the borrower to support the requested relief. Borrowers that continue to be impacted by COVID-19 may request an extension of the loan payment forbearance for up to an additional 15 months. A hardship certification from the borrower supporting the continued hardship due to COVID-19 is required for approval of additional payment forbearance. During forbearance, late fees are not assessed. At the end of forbearance, borrowers are presented with options for bringing their mortgage loan to a current status. For further discussion, see "Item 1. Financial Statements" (specifically, Note 9 beginning on page 15 of this report).

Consolidated Obligations and Deposits

During the six months ended June 30, 2022, the Bank's outstanding consolidated obligation bonds (at par value) decreased by $2.1 billion and its outstanding consolidated obligation discount notes (at par value) increased by $18.7 billion. The following table presents the composition of the Bank's outstanding bonds at June 30, 2022 and December 31, 2021.

COMPOSITION OF CONSOLIDATED OBLIGATION BONDS OUTSTANDING
(par value, dollars in millions)

	June 30, 2022		December 31, 2021	
	Balance	Percentage of Total	Balance	Percentage of Total
Variable-rate SOFR-indexed non-callable	$ 7,867	18.5 %	$ 9,947	22.2 %
Fixed-rate				
Callable	23,522	55.2	17,988	40.2
Non-callable	4,409	10.3	12,017	26.8
Step-up				
Callable	6,142	14.4	4,717	10.6
Non-callable	695	1.6	105	0.2
Total par value	$ 42,635	100.0 %	$ 44,774	100.0 %

During the first six months of 2022, the Bank issued $11.7 billion of consolidated obligation bonds and approximately $44.9 billion of consolidated obligation discount notes (excluding those with overnight terms), the proceeds of which were used to replace maturing consolidated obligation bonds and discount notes and to fund increases in the Bank's advances. At June 30, 2022 and December 31, 2021, discount notes comprised approximately 42 percent and 20 percent, respectively, of the Bank's total consolidated obligations. During the six months ended June 30, 2022, the Bank's bond issuance (based on trade date and par value) consisted of approximately $7.9 billion of swapped fixed-rate callable bonds (including step-up bonds), $0.8 billion of fixed-rate, predominately short-term non-callable bonds (which were not swapped), and $3.0 billion of SOFR-indexed non-callable bonds.

The weighted average LIBOR-equivalent cost of swapped and variable-rate consolidated obligation bonds issued by the Bank approximated LIBOR minus 39 basis points during the three months ended June 30, 2022, compared to LIBOR minus 20 basis points during the three months ended March 31, 2022 and LIBOR minus 20 basis points during the three months ended June 30, 2021. During the second quarter of 2022, concerns regarding high inflation, the number and magnitude of anticipated FOMC interest rate hikes in response to that inflation, and the potential for an economic recession caused investors to seek high quality short-term investments, including FHLBank consolidated obligations, particularly discount notes. The Bank was able to take advantage of this demand for FHLBank debt, and the resulting improvement in funding costs, by issuing primarily discount notes and swapped callable bonds at attractive rates during the second quarter of 2022.

Demand and term deposits were $1.7 billion and $1.6 billion at June 30, 2022 and December 31, 2021, respectively. The size of the Bank's deposit base varies as market factors change, including the attractiveness of the Bank's deposit pricing relative to the rates available to members on alternative money market investments, members' investment preferences with respect to the maturity of their investments, and member liquidity.

Capital

The Bank's outstanding capital stock (excluding mandatorily redeemable capital stock) was $2.8 billion and $2.2 billion at June 30, 2022 and December 31, 2021, respectively. The Bank's average outstanding capital stock (excluding mandatorily redeemable capital stock) was approximately $2.4 billion and $2.1 billion for the six months ended June 30, 2022 and the year ended December 31, 2021, respectively.

Mandatorily redeemable capital stock outstanding at June 30, 2022 and December 31, 2021 was $13.7 million and $6.7 million, respectively. Although mandatorily redeemable capital stock is excluded from capital (equity) for financial reporting purposes, it is considered capital for regulatory purposes.

At June 30, 2022 and December 31, 2021, the Bank's five largest shareholders collectively held $638 million and $503 million, respectively, of capital stock, which represented 22.7 percent and 23.0 percent, respectively, of the Bank's total outstanding capital stock (including mandatorily redeemable capital stock) as of those dates. The following table presents the Bank's five largest shareholders as of June 30, 2022.

FIVE LARGEST SHAREHOLDERS AS OF JUNE 30, 2022

(par value, dollars in thousands)

Name	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock
American General Life Insurance Company	$ 158,821	5.7 %
Texas Capital Bank, N.A.	124,313	4.4
Beal Bank USA	121,153	4.3
NexBank	117,308	4.2
Security Service Federal Credit Union	116,615	4.1
	$ 638,210	22.7 %

As of June 30, 2022, all of the stock held by the five institutions shown in the table above was classified as capital in the statement of condition.

The following table presents outstanding capital stock, by type of institution, as of June 30, 2022 and December 31, 2021.

CAPITAL STOCK OUTSTANDING BY INSTITUTION TYPE

(par value, dollars in millions)

	June 30, 2022		December 31, 2021	
	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock
Commercial banks	$ 1,379	49 %	$ 1,091	50 %
Credit unions	706	25	576	26
Insurance companies	385	14	378	17
Savings institutions	327	12	146	7
Community Development Financial Institutions	1	—	1	—
Total capital stock classified as capital	2,798	100	2,192	100
Mandatorily redeemable capital stock	14	—	7	—
Total regulatory capital stock	$ 2,812	100 %	$ 2,199	100 %

Members are required to maintain an investment in Class B Stock equal to the sum of a membership investment requirement and an activity-based investment requirement. The membership investment requirement is currently 0.04 percent of each member's total assets as of the previous calendar year-end, subject to a minimum of $1,000 and a maximum of $7,000,000. During the six months ended June 30, 2022, the activity-based investment requirement was 4.1 percent of outstanding advances and 0.1 percent of outstanding letters of credit, except as described below. Class B-1 Stock is used to meet the membership investment requirement and Class B-2 Stock is used to meet the activity-based investment requirement.

On September 21, 2015, the Bank announced a Board-authorized reduction in the activity-based stock investment requirement from 4.1 percent to 2.0 percent for certain advances that were funded during the period from October 21, 2015 through December 31, 2015. At June 30, 2022, the remaining balance of advances funded under this special reduced stock advances offering totaled approximately $496 million.

On February 28, 2020, the Bank announced another Board-authorized reduction in the activity-based stock investment requirement from 4.1 percent to 2.0 percent for up to $5.0 billion of advances that: (1) were funded during the period from April 1, 2020 through December 31, 2020 and (2) had a maturity of one year or greater. On July 1, 2020, the Bank announced a Board-authorized modification to this special advances offering. As modified, the Bank's activity-based capital stock investment requirement was reduced from 4.1 percent to 2.0 percent for advances that: (1) were funded during the period from August 1, 2020 through December 31, 2020 and (2) had a maturity of 28 days or greater. On December 7, 2020, the Bank announced that its Board of Directors had authorized the Bank to extend the expiration date of the special advances offering from December 31, 2020 to June 30, 2021. On March 17, 2021, the Bank announced another Board-authorized modification and extension to this special advances offering. As modified and extended, the Bank's activity-based capital stock investment requirement was reduced from 4.1 percent to 2.0 percent for advances that: (1) were funded during the period from April 19, 2021 through December 31, 2021 and (2) had a maturity of 32 days or greater. For advances that were funded on or prior to April 18, 2021, the reduced activity-based capital stock investment requirement continued to apply to advances that had a maturity of 28 days or greater. On December 8, 2021, the Bank announced that its Board of Directors had authorized the Bank to extend the expiration date of the special advances offering from December 31, 2021 to December 31, 2022. Under the special advances offering described in this paragraph, the maximum balance of advances to which the reduced activity-based stock investment requirement can be applied is $5.0 billion. If, at the time of funding an advance that would otherwise be eligible for the reduced capital stock investment requirement, the then outstanding balance of advances made pursuant to this offering totals $5 billion, then the standard capital stock investment requirement of 4.1 percent will apply. Except as described in this paragraph, the standard activity-based stock investment requirement of 4.1 percent continues to apply to all other advances that are funded during the period from April 1, 2020 through December 31, 2022. At June 30, 2022, advances outstanding under this program totaled approximately $5.0 billion.

In response to a regulatory directive, the Bank implemented an amendment to its Capital Plan on April 19, 2021. The amended Capital Plan provides for the imposition of an activity-based investment requirement ranging from 0.1 percent to 2.0 percent of members' outstanding letters of credit (the "LC Percentage"), as specified from time to time by the Bank's Board of Directors. The Board of Directors established an initial LC Percentage of 0.1 percent which applies only to letters of credit that are issued or renewed on and after April 19, 2021. The LC Percentage is applied to the issued amount of the letter of credit rather than, if applicable, the amount of the letter of credit that is used from time to time during the term of the letter of credit. Further, renewals for this purpose include amendments that extend the expiration date of the letter of credit.

Quarterly, the Bank typically repurchases a portion of members’ excess capital stock. Excess capital stock is defined as the amount of stock held by a member (or former member) in excess of that institution’s minimum investment requirement. The portion of members’ excess capital stock subject to repurchase is known as surplus stock. For the repurchases that occurred during the six months ended June 30, 2022, surplus stock was defined as the amount of stock held by a shareholder in excess of 125 percent of the shareholder’s minimum investment requirement. For those repurchases, which occurred on March 28, 2022 and June 27,2022, a shareholder's surplus stock was not repurchased if: (1) the amount of that shareholder's surplus stock was $2,000,000 or less; (2) the shareholder elected to opt-out of the repurchase; or (3) the shareholder was on restricted collateral status (subject to certain exceptions). On March 28, 2022 and June 27, 2022, the Bank repurchased surplus stock totaling $57.0 million and $143.0 million, respectively, none of which was classified as mandatorily redeemable capital stock at that date.

On March 28, 2022 and June 27, 2022, the Bank also repurchased all excess stock held by non-member shareholders as of those date. This excess stock, all of which was classified as mandatorily redeemable capital stock at those dates, totaled less than $1,000 and $2.1 million, respectively.

At June 30, 2022, the Bank’s excess stock totaled $939.2 million, which represented 1.21 percent of the Bank’s total assets as of that date.

During the six months ended June 30, 2022, the Bank’s retained earnings increased by $99 million, from $1.558 billion to $1.657 billion. During this same period, the Bank paid dividends on capital stock totaling $8.1 million, which represented a weighted average annualized dividend rate of 0.73 percent. These dividends were paid in the form of capital stock with any fractional shares paid in cash. The Bank’s first quarter dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 0.09 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2021) and 1.09 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2021 plus 1.0 percent), respectively. The first quarter dividends, which were applied to average Class B-1 Stock and average Class B-2 Stock held during the period from October 1, 2021 through December 31, 2021, were paid on March 29, 2022. The Bank’s second quarter dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 0.23 percent (a rate equal to average one-month LIBOR for the first quarter of 2022) and 1.23 percent (a rate equal to average one-month LIBOR for the first quarter of 2022 plus 1.0 percent), respectively. The second quarter dividends, which were applied to average Class B-1 Stock and average Class B-2 Stock held during the period from January 1, 2022 through March 31, 2022, were paid on June 28, 2022.

The Bank is precluded from paying dividends in the form of capital stock if excess stock held by its shareholders is greater than 1 percent of the Bank’s total assets or if, after the issuance of such shares, excess stock held by its shareholders would be greater than 1 percent of the Bank’s total assets. Before and immediately after the payment of the dividends on June 28, 2022, excess stock was below 1 percent of the Bank's total assets. Excess stock increased significantly on June 30, 2022 due to the repayment by certain credit union members of approximately $7.3 billion of advances on that date, which correspondingly reduced the activity-based investment requirement that had been associated with those advances. In early July 2022, much of this excess stock was used by the same credit union members to support new borrowings which, in turn, reduced the Bank's excess stock balance to an amount below 1 percent of the Bank's total assets.

While there can be no assurances about future dividends or future dividend rates, the target for quarterly dividends on Class B-1 Stock is currently an annualized rate that approximates average one-month LIBOR for the preceding quarter. The target range for quarterly dividends on Class B-2 Stock is currently an annualized rate that approximates average one-month LIBOR for the preceding quarter plus 0.5-1.0 percent.

The Bank is required to maintain at all times permanent capital in an amount at least equal to its risk-based capital requirement, which is the sum of its credit risk capital requirement, its market risk capital requirement, and its operations risk capital requirement, as further described in the 2021 10-K. Permanent capital is defined under the Finance Agency's rules as retained earnings and amounts paid in for Class B stock (which for the Bank includes both Class B-1 Stock and Class B-2 Stock), regardless of its classification as equity or liabilities for financial reporting purposes. At June 30, 2022, the Bank's total risk-based capital requirement was $655 million, comprised of credit risk, market risk and operations risk capital requirements of $252 million, $252 million and $151 million, respectively, and its permanent capital was $4.469 billion.

In addition to the risk-based capital requirement, the Bank is subject to three other capital requirements. First, the Bank must, at all times, maintain a minimum total capital-to-assets ratio of 4.0 percent. For this purpose, total capital is defined by Finance Agency rules and regulations as the Bank's permanent capital and the amount of any general allowance for losses (i.e., those reserves that are not held against specific assets). Second, the Bank is required to maintain at all times a minimum leverage capital-to-assets ratio in an amount at least equal to 5.0 percent of its total assets. In applying this requirement to the Bank, leverage capital includes the Bank's permanent capital multiplied by a factor of 1.5 plus the amount of any general allowance for losses. The Bank did not have any general allowance for losses at June 30, 2022 or December 31, 2021. Under the regulatory definitions, total capital and permanent capital exclude accumulated other comprehensive income (loss). Third, the Bank is required to maintain a capital stock-to-assets ratio of at least 2.0 percent, as measured on a daily average basis at each month end. At all times during the six months ended June 30, 2022, the Bank was in compliance with all of its regulatory capital requirements. At June 30, 2022, the Bank's total capital-to-assets and leverage capital-to-assets ratios were 5.75 percent and 8.63 percent, respectively. The Bank's capital stock-to-assets ratio was 3.84 percent for the month ended June 30, 2022. For a summary of the Bank's compliance with the Finance Agency's capital requirements as of June 30, 2022 and December 31, 2021, see "Item 1. Financial Statements" (specifically, Note 14 on page 32 of this report).

Derivatives and Hedging Activities

The Bank enters into interest rate swap, swaption, cap and floor agreements (collectively, interest rate exchange agreements) to manage its exposure to changes in interest rates and/or to adjust the effective maturity, repricing index and/or frequency or option characteristics of financial instruments. This use of derivatives is integral to the Bank's financial management strategy, and the impact of these interest rate exchange agreements permeates the Bank's financial statements. For additional discussion, see "Item 1. Financial Statements" (specifically, Note 13 beginning on page 24 of this report).

The following table provides the notional balances of the Bank's derivative instruments, by balance sheet category and accounting designation, as of June 30, 2022 and December 31, 2021.

COMPOSITION OF DERIVATIVES BY BALANCE SHEET CATEGORY AND ACCOUNTING DESIGNATION
(in millions)

	Fair Value Hedges				
	Shortcut Method	Long-Haul Method	Cash Flow Hedges	Economic Hedges	Total
June 30, 2022					
Advances	$ 12,099	$ 1,301	$ —	$ 65	$ 13,465
Investments	—	13,806	—	1,653	15,459
Mortgage loans held for portfolio	—	—	—	661	661
Consolidated obligation bonds	—	31,282	—	106	31,388
Consolidated obligation discount notes	—	—	1,066	2,022	3,088
Intermediary positions	—	—	—	165	165
Counterparty exposures	—	—	—	7,000	7,000
Other	—	—	—	425	425
Total notional balance	$ 12,099	$ 46,389	$ 1,066	$ 12,097	$ 71,651
December 31, 2021					
Advances	$ 9,324	$ 483	$ —	$ 265	$ 10,072
Investments	—	14,398	—	3	14,401
Mortgage loans held for portfolio	—	—	—	898	898
Consolidated obligation bonds	—	24,112	—	—	24,112
Consolidated obligation discount notes	—	—	1,066	900	1,966
Intermediary positions	—	—	—	172	172
Counterparty exposures	—	—	—	1,000	1,000
Other	—	—	—	425	425
Total notional balance	$ 9,324	$ 38,993	$ 1,066	$ 3,663	$ 53,046

As a result of statutory and regulatory requirements emanating from the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), certain derivative transactions that the Bank enters into are required to be cleared through a third-party central clearinghouse. As of June 30, 2022, the Bank had cleared trades outstanding with notional amounts totaling $29.9 billion. Cleared trades are subject to initial and variation margin requirements established by the clearinghouse and its clearing members. Collateral (or variation margin on daily settled derivative contracts) is typically delivered/paid (or returned/received) daily and, unlike bilateral derivatives, is not subject to any maximum unsecured credit exposure thresholds. The fair values of all interest rate derivatives (including accrued interest receivables and payables) with each clearing member of each clearinghouse are offset for purposes of measuring credit exposure and determining initial and variation margin requirements. With cleared transactions, the Bank is exposed to credit risk in the event that the clearinghouse or the clearing member fails to meet its obligations to the Bank. The Bank has determined that the exercise by a non-defaulting party of the setoff rights incorporated in its cleared derivative transactions should be upheld in the event of a default, including a bankruptcy, insolvency or similar proceeding involving the clearinghouse or any of its clearing members or both.

The Bank has transacted a majority of its interest rate exchange agreements bilaterally with large financial institutions (with which it has in place master agreements). In doing so, the Bank has generally exchanged a defined market risk for the risk that the counterparty will not be able to fulfill its obligations in the future. The Bank manages this credit risk by spreading its transactions among as many highly rated counterparties as is practicable, by entering into master agreements with each of its non-member bilateral counterparties that include maximum unsecured credit exposure thresholds ranging from $50,000 to $500,000, and by monitoring its exposure to each counterparty on a daily basis. In addition, all of the Bank's master agreements with its bilateral counterparties include netting arrangements whereby the fair values of all interest rate derivatives (including accrued interest receivables and payables) with each counterparty are offset for purposes of measuring credit exposure. As of June 30, 2022, the notional balance of outstanding interest rate exchange agreements transacted with non-member bilateral counterparties totaled $41.7 billion.

Under the Bank's master agreements with its non-member bilateral counterparties, the unsecured credit exposure thresholds must be met before collateral is required to be delivered by one party to the other party. Once the counterparties agree to the valuations of the interest rate exchange agreements, and if it is determined that the unsecured credit exposure exceeds the threshold, then, upon a request made by the unsecured counterparty, the party that has the unsecured obligation to the counterparty bearing the risk of the unsecured credit exposure generally must deliver sufficient collateral (or return a sufficient amount of previously remitted collateral) to reduce the unsecured credit exposure to zero (or, in the case of pledged securities, to an amount equal to the discount applied to the securities under the terms of the master agreement). Collateral is delivered (or returned) daily when these thresholds are met. The master agreements with the Bank's non-member bilateral counterparties require the delivery of collateral consisting of cash or very liquid, highly rated securities (generally consisting of U.S. government-guaranteed or agency debt securities) if credit risk exposures rise above the thresholds.

The notional amount of interest rate exchange agreements does not reflect the Bank's credit risk exposure, which is much less than the notional amount. The Bank's net credit risk exposure is based on the current estimated cost, on a present value basis, of replacing at current market rates all interest rate exchange agreements with individual counterparties, if those counterparties were to default, after taking into account the value of any cash and/or securities collateral held or remitted by the Bank. For counterparties with which the Bank is in a net gain position, the Bank has credit exposure when the collateral it is holding (if any) has a value less than the amount of the gain. For counterparties with which the Bank is in a net loss position, the Bank has credit exposure when it has delivered collateral with a value greater than the amount of the loss position.

The following table provides information regarding the Bank's derivative counterparty credit exposure as of June 30, 2022.

DERIVATIVES COUNTERPARTY CREDIT EXPOSURE

(dollars in millions)

Credit Rating[1]	Number of Bilateral Counterparties	Notional Principal[2]	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparty	Other Collateral Pledged To Counterparty	Net Credit Exposure
Non-member counterparties						
Asset positions with credit exposure						
Single-A	1	$ 52.0	$ 0.2	$ (0.1)	$ —	$ 0.1
Cleared derivatives [3]	—	252.4	0.8	—	5.8	6.6
Liability positions with credit exposure						
Single-A[4]	14	27,723.2	(1,071.7)	1,177.3	—	105.6
Triple-B	2	3,925.0	(192.0)	206.6	—	14.6
Cleared derivatives [3]	—	29,638.2	(96.7)	—	515.8	419.1
Total derivative positions with non-member counterparties to which the Bank had credit exposure	17	61,590.8	(1,359.4)	1,383.8	521.6	546.0
Liability positions without credit exposure	1	9,952.1	(357.1)	351.0	—	—
Total derivative positions with non-member counterparties to which the Bank did not have credit exposure	1	9,952.1	(357.1)	351.0	—	—
Total non-member counterparties	18	71,542.9	(1,716.5)	$ 1,734.8	$ 521.6	$ 546.0
Member institutions						
Interest rate exchange agreements [5]						
Asset positions	3	42.3	0.9			
Liability positions	1	40.0	—			
Mortgage delivery commitments	—	25.6	0.1			
Total member institutions	4	107.9	1.0			
Total	22	$ 71,650.8	$ (1,715.5)			

(1) Credit ratings shown in the table reflect the lowest rating from Moody's or S&P and are as of June 30, 2022.
(2) Includes amounts that had not settled as of June 30, 2022.
(3) Cleared derivatives with an aggregate notional principal balance of $5.4 billion were transacted with a clearinghouse rated double-A and cleared derivatives with an aggregate notional principal balance of $24.5 billion were transacted with a clearinghouse rated single-A.
(4) The figures for liability positions with credit exposure to counterparties rated single-A included transactions with a counterparty that is affiliated with a member of the Bank. Transactions with that counterparty had an aggregate notional principal of $3.2 billion and net credit exposure of $1.0 million.
(5) This product offering and the collateral provisions associated therewith are discussed in the paragraph below.

The Bank offers interest rate exchange agreements to its members to assist them in meeting their risk management objectives. In derivative transactions with its members, the Bank acts as an intermediary by entering into an interest rate exchange agreement with the member and then entering into an offsetting interest rate exchange agreement with one of the Bank's non-member derivative counterparties discussed above. When entering into interest rate exchange agreements with its members, the Bank requires the member to post eligible collateral in an amount equal to the sum of the net market value of the member's derivative transactions with the Bank (if the value is positive to the Bank) plus a percentage of the notional amount of any interest rate swaps, with market values determined on at least a monthly basis. Eligible collateral for derivative transactions consists of collateral that is eligible to secure advances and other obligations under the member's Advances and Security Agreement with the Bank.

The Dodd-Frank Act changed the regulatory framework for derivative transactions that are not subject to mandatory clearing requirements (uncleared trades). While the Bank expects to be able in certain instances to continue to enter into uncleared trades on a bilateral basis, those transactions will be subject to new regulatory requirements, including (if certain thresholds are met) minimum initial margin requirements imposed by regulators. For additional discussion, see the section entitled "Legislative and Regulatory Developments" in Item 1. Business in the 2021 10-K.

LIBOR Phase-Out

As discussed in the 2021 10-K, one-month and three-month LIBOR are expected to no longer be available after June 30, 2023. For some time, the Bank has been preparing for this possibility and the associated transition to an alternative reference rate (e.g., SOFR). Among other things, a permanent discontinuation of LIBOR has necessitated the addition of fallback language in the Bank's LIBOR-indexed derivative contracts that extend past the cessation date, as well as changes in the Bank's risk management practices. In response to the future cessation of LIBOR, the Bank is no longer offering LIBOR-indexed advances, nor is it issuing LIBOR-indexed consolidated obligations.

On September 27, 2019, the Finance Agency issued a supervisory letter to the FHLBanks relating to their preparations for the phase-out of LIBOR. Under the supervisory letter, with limited exceptions, the FHLBanks were directed, by December 31, 2019, to no longer purchase LIBOR-indexed investments which mature after December 31, 2021 and, by March 31, 2020, to no longer issue, make, purchase or otherwise enter into financial liabilities, derivatives or other assets that reference LIBOR and which mature after December 31, 2021. In light of the market volatility that was caused by the COVID-19 pandemic, the Finance Agency (on March 16, 2020) extended the date after which the FHLBanks could no longer issue, make, purchase or otherwise enter into financial liabilities, derivatives or other assets that reference LIBOR and which mature after December 31, 2021 from March 31, 2020 to June 30, 2020, except for option-embedded products. This directive did not in any way modify the previous guidance relating to investments. The Bank has complied with all aspects of this guidance.

On October 23, 2020, the International Swaps and Derivatives Association ("ISDA") launched the IBOR Fallbacks Supplement ("Supplement") and the IBOR Fallbacks Protocol ("Protocol"). The Supplement amends ISDA's standard definitions for interest rate derivatives to incorporate robust fallbacks for derivatives linked to certain interbank offered rates ("IBORs"). Both the Supplement and the Protocol took effect on January 25, 2021. On that date, all legacy bilateral derivative transactions subject to Protocol-covered agreements (including ISDA agreements) that incorporate certain covered ISDA definitional booklets and reference a covered IBOR, including LIBOR, were amended to apply the new ISDA-recommended IBOR fallbacks in the event of the relevant IBOR's cessation. Both parties must adhere to the Protocol in order to effectively amend legacy derivative contracts or, alternatively, the parties must bilaterally agree to amended legacy contracts to address IBOR fallbacks. The Bank and all of its non-member bilateral derivative counterparties have adhered to the Protocol. On and after January 25, 2021, all new derivative contracts are subject to the relevant IBOR fallbacks set forth in the Supplement. ISDA has stated that the announcement on March 5, 2021 by the United Kingdom's Financial Conduct Authority ("FCA") (in which the FCA announced the dates that panel bank submissions for all LIBOR settings would cease) constituted an index cessation event under the Supplement and the Protocol and, as a result, the fallback spread adjustment published by Bloomberg was fixed as of the date of that announcement for all LIBOR settings. The Bank does not expect the fallback spread adjustments to have a significant impact on its derivative positions.

On March 15, 2022, President Biden signed into law the Adjustable Interest Rate (LIBOR) Act (the "LIBOR Act"). The LIBOR Act provides legal certainty for legacy contracts with inadequate or unworkable fallback provisions when LIBOR stops being published after June 30, 2023. For contracts with either no fallback provisions or insufficient fallback provisions, the legislation will automatically impose a rate selected by the Federal Reserve based upon SOFR including any applicable tenor spread adjustment. The legislation also includes a safe harbor against liability for parties with contractual discretion who choose the Federal Reserve's SOFR-based rate to replace LIBOR. On July 28, 2022, the Board of Governors of the Federal Reserve System published a proposed rule that would implement this legislation. For further discussion, see the section entitled "Legislative and Regulatory Developments" beginning on page 47 of this report.

The following table presents the Bank's LIBOR-indexed financial instruments by contractual maturity at June 30, 2022. Some of the Bank's derivatives contain call options which, if exercised, could result in earlier terminations. In addition, it is possible that some of the Bank's MBS holdings could be prepaid, reducing the balance of these investments maturing after June 30, 2023.

LIBOR-INDEXED FINANCIAL INSTRUMENTS
(par/notional value, in millions)

	Six Months Ended December 31, 2022	Six Months Ended June 30, 2023	Thereafter	Total
Instruments with receipts indexed to LIBOR				
Investments (par value)				
Non-MBS	$ —	$ —	$ 1	$ 1
MBS	—	—	457	457
LIBOR-indexed derivatives notional amount (receive leg)				
Cleared	278	359	16,112	16,749
Uncleared	69	43	3,654	3,766
Total par/notional amount	$ 347	$ 402	$ 20,224	$ 20,973
Instruments with payments indexed to LIBOR				
LIBOR-indexed derivatives notional amount (pay leg)				
Cleared	$ 827	$ 488	$ 1,323	$ 2,638
Uncleared	103	20	239	362
Total par/notional amount	$ 930	$ 508	$ 1,562	$ 3,000

At June 30, 2022, the Bank had outstanding standby bond purchase agreements totaling $883.2 million which expire in 2022, 2023, 2024, 2025 and 2026. Under the terms of these agreements, the Bank could be required to purchase and hold the subject bonds for a period of time. If this were to occur, the Bank would earn interest on the bonds at specified rates indexed to the greater of one-month LIBOR or the Federal Funds rate. The standby bond purchase agreements that expire after June 30, 2023 include fallback language in the event one-month LIBOR is no longer available after that date. For further discussion of these standby bond purchase agreements, see “Item 1. Financial Statements” (specifically, Note 17 on page 36 of this report).

Results of Operations

Net Income

Net income for the three months ended June 30, 2022 and 2021 was $65.6 million and $28.0 million, respectively. The Bank’s net income for the three months ended June 30, 2022 represented an annualized return on average capital stock (“ROCS”) of 10.04 percent. In comparison, the Bank’s ROCS was 5.39 percent for the three months ended June 30, 2021. Net income for the six months ended June 30, 2022 and 2021 was $106.7 million and $75.9 million, respectively. The Bank’s net income for the six months ended June 30, 2022 represented an annualized ROCS of 8.88 percent. In comparison, the Bank’s ROCS was 7.43 percent for the six months ended June 30, 2021. To derive the Bank’s ROCS, net income is divided by average capital stock outstanding excluding stock that is classified as mandatorily redeemable capital stock. The factors contributing to the changes in the Bank's net income are discussed below.

Income Before Assessments

During the three months ended June 30, 2022 and 2021, the Bank’s income before assessments was $72.8 million and $31.1 million, respectively. As discussed in more detail below, the $41.7 million increase in income before assessments from period to period was attributable to a $50.9 million increase in net interest income after provision/reversal for mortgage loan losses and a $2.1 million decrease in other expense partially offset by a $11.3 million unfavorable change in other income (loss).

During the six months ended June 30, 2022 and 2021, the Bank’s income before assessments was $118.5 million and $84.3 million, respectively. As discussed in more detail below, the $34.2 million increase in income before assessments from period to period was attributable to a $61.1 million increase in net interest income after provision/reversal for mortgage loan losses and a $3.7 million decrease in other expense partially offset by a $30.6 million unfavorable change in other income (loss).

The components of income before assessments (net interest income, other income/loss and other expense) are discussed in more detail in the following sections.

Net Interest Income After Provision/Reversal for Mortgage Loan Losses

For the three months ended June 30, 2022, the Bank's net interest income (after provision/reversal for mortgage loan losses) was $102.1 million compared to $51.2 million for the comparable period in 2021. The $50.9 million increase in net interest income for the three months ended June 30, 2022, as compared to the corresponding period in 2021, was due largely to an increase in the average balances of the Bank's interest-earning assets from $58.9 billion during the three months ended June 30, 2021 to $69.6 billion during the comparable period in 2022, as well as net yield maintenance fees received in connection with GSE CMBS prepayments that occurred during the three months ended June 30, 2022 (as previously discussed in the Long-Term Investments section beginning on page 52 of this report) and a $7.2 million favorable change in fair value hedge ineffectiveness from period to period (which, as further discussed below, is offset in part by mitigation activities undertaken by the Bank, the results of which are recorded in other income/loss).

For the six months ended June 30, 2022, the Bank's net interest income (after provision/reversal for mortgage loan losses) was $192.3 million compared to $131.2 million for the comparable period in 2021. The $61.1 million increase in net interest income for the six months ended June 30, 2022, as compared to the corresponding period in 2021, was due largely to an increase in the average balances of the Bank's interest-earning assets from $59.2 billion during the six months ended June 30, 2021 to $65.7 billion during the comparable period in 2022 and net yield maintenance fees received in connection with GSE CMBS prepayments that occurred during the first half of 2022, as previously discussed in the Long-Term Investments section beginning on page 52 of this report.

For the three months ended June 30, 2022 and 2021, the Bank's net interest margin was 59 basis points and 34 basis points, respectively. The Bank's net interest margin was 59 basis points and 44 basis points for the six months ended June 30, 2022 and 2021, respectively. Net interest margin, or net interest income as a percentage of average earning assets, is a function of net interest spread and the rates of return on assets funded by the investment of the Bank's capital. Net interest spread is the difference between the yield on interest-earning assets and the cost of interest-bearing liabilities. The Bank's net interest spread was 51 basis points and 33 basis points for the three months ended June 30, 2022 and 2021, respectively, and 54 basis points and 43 basis points for the six months ended June 30, 2022 and 2021, respectively. The Bank's net interest margin and net interest spread are impacted positively or negatively, as the case may be, by the amount of fair value hedge ineffectiveness recorded in net interest income.

U.S. GAAP requires that, for fair value hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness along with the changes in the fair value of the hedged item attributable to the hedged risk be presented in the same income statement line that is used to present the earnings effect of the hedged item. For the three months ended June 30, 2022 and 2021, the fair value hedge ineffectiveness amounts reported in net interest income increased (reduced) interest income on advances by $58,000 and ($120,000), respectively, increased (reduced) interest income on available-for-sale securities by $2,490,000 and ($5,306,000), respectively, and increased interest expense on consolidated obligations by $1,139,000 and $331,000, respectively. In aggregate, these amounts increased (reduced) net interest income by $1,409,000 and ($5,757,000) for the three months ended June 30, 2022 and 2021, respectively. For the six months ended June 30, 2022 and 2021, the fair value hedge ineffectiveness amounts reported in net interest income increased interest income on advances by $512,000 and $355,000, respectively, increased interest income on available-for-sale securities by $17,527,000 and $14,816,000, respectively, and increased interest expense on consolidated obligations by $4,227,000 and $1,464,000, respectively. In aggregate, these amounts increased net interest income by $13,812,000 and $13,707,000 for the six months ended June 30, 2022 and 2021, respectively.

The higher yielding, longer duration fixed-rate GSE CMBS and GSE debentures held in the Bank's available-for-sale securities portfolio (substantially all of which are hedged with fixed-for-floating interest rate swaps in long-haul hedging relationships) expose the Bank to periodic earnings variability in the form of fair value hedge ineffectiveness. For the hedge relationships that were established prior to 2022, the hedge ineffectiveness gains and losses are attributable in large part to the use of different discount curves to value the interest rate swaps (either the overnight index swap curve or the SOFR curve) and the GSE CMBS/GSE debentures (LIBOR plus a constant spread). Notwithstanding the hedge ineffectiveness gains and losses, these hedging relationships have been, and are expected to continue to be, highly effective in achieving offsetting changes in fair values attributable to the hedged risk. While the ineffectiveness-related gains and losses associated with these hedging relationships can be significant when evaluated in the context of the Bank's net income, they are relatively small when expressed as a percentage of the values of the positions. Because the Bank intends to hold these interest rate swaps to maturity, the unrealized ineffectiveness-related gains (or losses) associated with its holdings of GSE CMBS and GSE debentures are, in the absence of CMBS prepayments, expected to be transitory, meaning that they will reverse in future periods in the form of ineffectiveness-related losses (or gains).

As allowed under U.S. GAAP, the Bank has designated the hedged risk associated with its investments in available-for-sale securities acquired in 2022 as the SOFR benchmark interest rate component, thereby excluding the credit spread from the hedged items' contractual cash flows. Long-haul hedging relationships that are based upon the benchmark rate component of the contractual coupon cash flows are expected to generate significantly less periodic earnings variability than the Bank's other (pre-2022) available-for-sale hedging relationships which are based upon the securities' contractual cash flows. During the three and six months ended June 30, 2022, the fair value hedge ineffectiveness losses associated with the Bank's available-for-sale benchmark component hedging relationships ($1.1 billion notional) totaled $83,000.

The contribution of earnings from the Bank's invested capital to the net interest margin (the impact of non-interest bearing funds) increased from 1 basis point during the three months ended June 30, 2021 to 8 basis points during the three months ended June 30, 2022 and increased from 1 basis point during the six months ended June 30, 2021 to 5 basis points during the six months ended June 30, 2022. The increase in the impact of non-interest bearing funds for the three and six months ended June 30, 2022, as compared to the corresponding periods in 2021, is primarily due to the increase in short-term interest rates between the periods.

The following table presents average balance sheet amounts together with the total dollar amounts of interest income and expense and the weighted average interest rates of major earning asset categories and the funding sources for those earning assets for the three months ended June 30, 2022 and 2021.

YIELD AND SPREAD ANALYSIS
(dollars in millions)

	For the Three Months Ended June 30,					
	2022			2021		
	Average Balance	Interest Income/ Expense	Average Rate[1]	Average Balance	Interest Income/ Expense	Average Rate[1]
Assets						
Interest-bearing deposits [2]	$ 2,439	$ 5	0.81 %	$ 951	$ 1	0.10 %
Securities purchased under agreements to resell	458	1	0.88 %	69	—	0.05 %
Federal funds sold	5,648	13	0.91 %	3,586	—	0.07 %
Investments						
Trading	2,729	4	0.62 %	4,418	2	0.15 %
Available-for-sale [3]	13,257	65	1.97 %	16,033	24	0.61 %
Held-to-maturity [3]	498	2	1.28 %	787	1	0.69 %
Advances [4]	40,690	111	1.09 %	29,866	29	0.40 %
Mortgage loans held for portfolio [5]	3,879	28	2.84 %	3,183	18	2.26 %
Total earning assets	69,598	229	1.31 %	58,893	75	0.51 %
Cash and due from banks	42			193		
Other assets	122			205		
Derivatives netting adjustment [2]	(1,570)			(425)		
Fair value adjustment on available-for-sale securities [3]	174			327		
Adjustment for net non-credit portion of other-than-temporary impairments on held-to-maturity securities [3]	(4)			(6)		
Total assets	$ 68,362	229	1.34 %	$ 59,187	75	0.51 %
Liabilities and Capital						
Interest-bearing deposits [2]	$ 1,768	3	0.68 %	$ 1,826	—	0.02 %
Consolidated obligations						
Bonds	39,951	83	0.83 %	41,509	17	0.17 %
Discount notes	21,642	42	0.77 %	11,656	7	0.24 %
Mandatorily redeemable capital stock and other borrowings	17	—	1.08 %	39	—	— %
Total interest-bearing liabilities	63,378	128	0.80 %	55,030	24	0.18 %
Other liabilities	2,104			778		
Derivatives netting adjustment [2]	(1,570)			(425)		
Total liabilities	63,912	128	0.80 %	55,383	24	0.18 %
Total capital	4,450			3,804		
Total liabilities and capital	$ 68,362		0.75 %	$ 59,187		0.17 %
Net interest income		$ 101			$ 51	
Net interest margin			0.59 %			0.34 %
Net interest spread			0.51 %			0.33 %
Impact of non-interest bearing funds			0.08 %			0.01 %

(1) Percentages are annualized figures. Amounts used to calculate average rates are based on whole dollars. Accordingly, recalculations based upon the disclosed amounts (millions) may not produce the same results.

(2) The Bank offsets the fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral against the fair value amounts recognized for derivative instruments transacted under a master netting agreement or other similar arrangement. The average balances of interest-bearing deposit assets for the three months ended June 30, 2022 and 2021 in the table above include $1.570 billion and $413 million, respectively, which are classified as derivative assets/liabilities on the statements of condition. In addition, the average balances of interest-bearing deposit liabilities for the three months ended June 30, 2022 and 2021 in the table above include $0.1 million and $12 million, respectively, which are classified as derivative assets/liabilities on the statements of condition.

(3) Average balances for available-for-sale and held-to-maturity securities are calculated based upon amortized cost.

(4) Interest income and average rates include net prepayment fees on advances.

(5) The average balances for mortgage loans held for portfolio in the table above include $33 million and $97 million of non-accruing loans for the three months ended June 30, 2022 and 2021, respectively.

The following table presents average balance sheet amounts together with the total dollar amounts of interest income and expense and the weighted average interest rates of major earning asset categories and the funding sources for those earning assets for the six months ended June 30, 2022 and 2021.

	For the Six Months Ended June 30,					
	2022			2021		
	Average Balance	Interest Income/ Expense	Average Rate[1]	Average Balance	Interest Income/ Expense	Average Rate[1]
Assets						
Interest-bearing deposits [2]	$ 2,011	$ 5	0.55 %	$ 1,019	$ 1	0.11 %
Securities purchased under agreements to resell	1,043	1	0.31 %	95	—	0.08 %
Federal funds sold	4,183	14	0.65 %	3,411	1	0.08 %
Investments						
Trading	3,721	8	0.42 %	4,608	7	0.31 %
Available-for-sale [3]	13,658	122	1.79 %	16,218	75	0.93 %
Held-to-maturity [3]	539	3	1.00 %	825	3	0.70 %
Advances [4]	36,824	149	0.81 %	29,782	65	0.44 %
Mortgage loans held for portfolio [5]	3,737	52	2.75 %	3,244	36	2.25 %
Total earning assets	65,716	354	1.08 %	59,202	188	0.64 %
Cash and due from banks	118			218		
Other assets	156			208		
Derivatives netting adjustment [2]	(1,173)			(430)		
Fair value adjustment on available-for-sale securities [3]	199			288		
Adjustment for net non-credit portion of other-than-temporary impairments on held-to-maturity securities [3]	(4)			(6)		
Total assets	$ 65,012	354	1.09 %	$ 59,480	188	0.63 %
Liabilities and Capital						
Interest-bearing deposits [2]	$ 1,827	3	0.37 %	$ 1,804	—	0.02 %
Consolidated obligations						
Bonds	41,410	107	0.51 %	38,960	41	0.21 %
Discount notes	17,004	52	0.61 %	14,631	16	0.22 %
Mandatorily redeemable capital stock and other borrowings	12	—	0.83 %	34	—	0.02 %
Total interest-bearing liabilities	60,253	162	0.54 %	55,429	57	0.21 %
Other liabilities	1,709			771		
Derivatives netting adjustment [2]	(1,173)			(430)		
Total liabilities	60,789	162	0.53 %	55,770	57	0.21 %
Total capital	4,223			3,710		
Total liabilities and capital	$ 65,012		0.50 %	$ 59,480		0.19 %
Net interest income		$ 192			$ 131	
Net interest margin			0.59 %			0.44 %
Net interest spread			0.54 %			0.43 %
Impact of non-interest bearing funds			0.05 %			0.01 %

(1) Percentages are annualized figures. Amounts used to calculate average rates are based on whole dollars. Accordingly, recalculations based upon the disclosed amounts (millions) may not produce the same results.

(2) The Bank offsets the fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral against the fair value amounts recognized for derivative instruments transacted under a master netting agreement or other similar arrangement. The average balances of interest-bearing deposit assets for the six months ended June 30, 2022 and 2021 in the table above include $1.172 billion and $418 million, respectively, which are classified as derivative assets/liabilities on the statements of condition. In addition, the average balances of interest-bearing deposit liabilities for the six months ended June 30, 2022 and 2021 in the table above include $1 million and $12 million, respectively, which are classified as derivative assets/liabilities on the statements of condition.

(3) Average balances for available-for-sale and held-to-maturity securities are calculated based upon amortized cost.

(4) Interest income and average rates include net prepayment fees on advances.

(5) The average balances for mortgage loans held for portfolio in the table above include $39 million and $105 million of non-accruing loans for the six months ended June 30, 2022 and 2021, respectively.

Changes in both volume (i.e., average balances) and interest rates influence changes in net interest income and net interest margin. The following table summarizes changes in interest income and interest expense between the three and six-month periods ended June 30, 2022 and 2021. Changes in interest income and interest expense that cannot be attributed to either volume or rate have been allocated to the volume and rate categories based upon the proportion of the absolute value of the volume and rate changes.

RATE AND VOLUME ANALYSIS
(in millions)

	For the Three Months Ended June 30, 2022 vs. 2021			For the Six Months Ended June 30, 2022 vs. 2021		
	Volume	**Rate**	**Total**	**Volume**	**Rate**	**Total**
Interest income						
Interest-bearing deposits	$ 1	$ 3	$ 4	$ 1	$ 3	$ 4
Securities purchased under agreements to resell	—	1	1	1	—	1
Federal funds sold	1	12	13	1	12	13
Investments						
Trading	(1)	3	2	(2)	3	1
Available-for-sale	(5)	46	41	(13)	60	47
Held-to-maturity	(1)	2	1	(1)	1	—
Advances	14	68	82	18	66	84
Mortgage loans held for portfolio	4	6	10	6	10	16
Total interest income	13	141	154	11	155	166
Interest expense						
Interest-bearing deposits	—	3	3	—	3	3
Consolidated obligations						
Bonds	(1)	67	66	3	63	66
Discount notes	10	25	35	3	33	36
Mandatorily redeemable capital stock and other borrowings	—	—	—	—	—	—
Total interest expense	9	95	104	6	99	105
Changes in net interest income	$ 4	$ 46	$ 50	$ 5	$ 56	$ 61

Other Income (Loss)

The following table presents the various components of other income (loss) for the three and six months ended June 30, 2022 and 2021.

OTHER INCOME (LOSS)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	**2021**	**2022**	**2021**
Net interest income (expense) associated with:				
Member/offsetting derivatives	$ 8	$ 11	$ 18	$ 23
Economic hedge derivatives related to advances	11	(133)	(47)	(292)
Economic hedge derivatives related to trading securities	267	(564)	(92)	(3,520)
Economic hedge derivatives related to available-for-sale securities	(6)	(9)	(14)	(18)
Economic hedge derivatives related to consolidated obligation bonds	262	280	262	336
Economic hedge derivatives related to consolidated obligation discount notes	(122)	—	76	—
Economic hedge derivatives related to mortgage loans held for portfolio	(271)	813	(115)	1,362
Other stand-alone economic hedge derivatives	992	1,830	2,709	3,621
Total net interest income associated with economic hedge derivatives	1,141	2,228	2,797	1,512
Gains (losses) related to economic hedge derivatives				
Interest rate swaps				
Advances	78	(418)	1,771	3,366
Available-for-sale securities	65	(21)	220	98
Trading securities	399	576	1,083	3,532
Mortgage loans held for portfolio	20,006	9,418	20,040	3,870
Consolidated obligation bonds	(589)	477	(589)	(45)
Consolidated obligation discount notes	(5,162)	—	(8,512)	—
Other stand-alone economic hedge derivatives	(8,372)	3,454	(30,305)	(13,398)
Interest rate swaptions				
Available-for-sale securities	(819)	—	(819)	—
Mortgage loans held for portfolio	(12,916)	(14,123)	788	3,151
Mortgage delivery commitments	1,897	(697)	(784)	(1,879)
Member/offsetting swaps and caps	(9)	(12)	(21)	(25)
Total fair value losses related to economic hedge derivatives	(5,422)	(1,346)	(17,128)	(1,330)
Price alignment amount on daily settled derivative contracts	56	—	59	—
Total net gains (losses) on derivatives and hedging activities	(4,225)	882	(14,272)	182
Net losses on trading securities	(4,455)	(465)	(19,201)	(6,906)
Net gains (losses) on other assets carried at fair value	(1,647)	720	(2,340)	1,209
Service fees	739	653	1,446	1,283
Letter of credit fees	3,261	3,613	6,747	7,304
Standby bond purchase agreement fees	457	483	914	946
Other, net	158	(230)	163	62
Total other	(1,487)	4,774	(12,271)	3,898
Total other income (loss)	$ (5,712)	$ 5,656	$ (26,543)	$ 4,080

Net Interest Settlements

Net interest income (expense) associated with economic hedge derivatives including, but not limited to, those associated with non-qualifying fair value hedging relationships is recorded in net gains (losses) on derivatives and hedging activities. Net interest income (expense) associated with derivatives in qualifying fair value hedging relationships is recorded in net interest income in the same income statement line that is used to present the earnings effect of the hedged item.

Fair Value Hedge Ineffectiveness

The Bank uses interest rate swaps to hedge the risk of changes in the fair value of some of its advances and consolidated obligation bonds and substantially all of its available-for-sale securities. These hedging relationships are designated as fair value hedges. To the extent these relationships qualify for hedge accounting, changes in the fair values of both the derivative (the interest rate swap) and the hedged item (limited to changes attributable to the hedged risk) are recorded in net interest income in the same income statement line that is used to present the earnings effect of the hedged item. To the extent that the Bank's fair value hedging relationships do not qualify for hedge accounting, or cease to qualify because they are determined to be ineffective, only the change in fair value of the derivative is recorded in earnings as net gains (losses) on derivatives and hedging activities (in this case, there is no offsetting change in fair value of the hedged item). The net gains (losses) on derivatives associated with specific advances, available-for-sale securities and consolidated obligation bonds that did not qualify for hedge accounting, or ceased to qualify because they were determined to be ineffective, totaled $(446,000) and $38,000 for the three months ended June 30, 2022 and 2021, respectively, and totaled $1,402,000 and $3,419,000 for the six months ended June 30, 2022 and 2021, respectively.

Economic Hedge Derivatives

Notwithstanding the transitory nature of the ineffectiveness-related gains and losses associated with the Bank's available-for-sale securities portfolio (discussed above), the Bank has entered into several derivative transactions in an effort to mitigate a portion of the periodic earnings variability that can result from those fair value hedging relationships. At both June 30, 2022 and December 31, 2021, the notional balance of these derivatives totaled $425 million. For the three months ended June 30, 2022 and 2021, the gains (losses) associated with these stand-alone economic hedge derivatives were $(8.4) million and $3.5 million, respectively. The gains (losses) associated with these stand-alone economic hedge derivatives were $(30.3) million and $(13.4) million for the six months ended June 30, 2022 and 2021, respectively. The mitigation activities were less effective during the three and six months ended June 30, 2022 as compared to the corresponding periods in 2021.

The Bank has invested in residential mortgage loans. A portion of the interest rate and prepayment risk associated with the Bank's mortgage loan portfolio is managed through the use of interest rate swaps and swaptions. The net change in the fair values of these interest rate swaps and swaptions were $7.1 million and $(4.7) million for the three months ended June 30, 2022 and 2021, respectively, and $20.8 million and $7.0 million for the six months ended June 30, 2022 and 2021, respectively. In addition, in some but not all cases, the Bank enters into delivery commitments associated with the purchase of the mortgage loans. The fair value changes associated with mortgage delivery commitments (representing net unrealized gains/losses from the commitment date to the settlement date) were $1.9 million and $(0.7) million for the three months ended June 30, 2022 and 2021, respectively, and $(0.8) million and $(1.9) million for the six months ended June 30, 2022 and 2021, respectively.

The Bank has invested in GSE CMBS. To hedge a portion of the prepayment risk that exists during the open period (i.e., the period during which the securities can be prepaid without a yield maintenance fee), the Bank has entered into swaptions with a notional balance of $1.15 billion. For the three and six months ended June 30, 2022, the losses associated with these stand-alone economic hedge derivatives were $0.8 million. The Bank was not a party to any swaptions related to its GSE CMBS holdings during the six months ended June 30, 2021.

As discussed previously in the section entitled “Financial Condition — Derivatives and Hedging Activities," the Bank offers interest rate exchange agreements to its members to assist them in meeting their risk management objectives. In derivative transactions with its members, the Bank acts as an intermediary by entering into an interest rate exchange agreement with the member and then entering into an offsetting interest rate exchange agreement with one of the Bank’s non-member derivative counterparties. The net change in the fair values of derivatives transacted with members and the offsetting derivatives was insignificant for the three and six months ended June 30, 2022 and 2021.

Price Alignment Amount

Pursuant to their rulebooks, the Bank's two clearinghouse counterparties legally characterize variation margin payments on cleared derivatives as settlements on the contracts. The Bank receives or pays a price alignment amount on the cumulative variation margin payments associated with these contracts. The price alignment amount approximates the amount of interest the Bank would receive or pay if the variation margin payments were characterized as collateral pledged to secure outstanding credit exposure on the derivative contracts. The price alignment amount associated with derivatives in qualifying fair value hedging relationships is recorded in net interest income in the same income statement line that is used to present the earnings effect of the hedged item. The price alignment amount associated with economic hedge derivatives including, but not limited to, those associated with non-qualifying fair value hedging relationships, is recorded in net gains (losses) on derivatives and hedging activities.

Other

During the six months ended June 30, 2022 and 2021, the Bank held U.S. Treasury Bills and U.S. Treasury Notes, all of which were classified as trading securities. Due to fluctuations in interest rates, the aggregate losses on these investments were $4.5 million and $0.5 million for the three months ended June 30, 2022 and 2021, respectively, and $19.2 million and $6.9 million for the six months ended June 30, 2022 and 2021, respectively. The Bank occasionally hedges the risk of changes in the fair value of some of the U.S. Treasury Notes and U.S Treasury Bills held in its short-term liquidity portfolio. The gains associated with these stand-alone derivatives were $0.4 million and $0.5 million for the three months ended June 30, 2022 and 2021, respectively, and $1.1 million and $3.5 million for the six months ended June 30, 2022 and 2021, respectively.

The Bank has a small balance of marketable equity securities consisting solely of mutual fund investments associated with its non-qualified deferred compensation plans. These securities are carried at fair value and included in other assets on the statements of condition. The fair value gains (losses) on these securities totaled $(1.6) million and $0.7 million for the three months ended June 30, 2022 and 2021, respectively, and $(2.3) million and $1.2 million for the six months ended June 30, 2022 and 2021, respectively. The gains (losses) on the securities are offset by a corresponding increase (decrease) in amounts owed to participants in the deferred compensation plans, the expense (or credit) for which is recorded in compensation and benefits expense (in the case of employees) or other operating expenses (in the case of directors).

Letter of credit fees totaled $3.2 million and $6.7 million for the three and six months ended June 30, 2022, respectively, compared to $3.6 million and $7.3 million for the corresponding periods in 2021. At June 30, 2022 and 2021, outstanding letters of credit totaled $18.9 billion and $21.4 billion, respectively.

Standby bond purchase agreement fees totaled $0.5 million for both the three months ended June 30, 2022 and 2021 and $0.9 million for both the six months ended June 30, 2022 and 2021. At June 30, 2022 and 2021, outstanding standby bond purchase agreements totaled $883 million and $940 million, respectively.

Other Expense

Total other expense includes the Bank’s compensation and benefits; other operating expenses; discretionary grants and donations; derivative clearing fees; and its proportionate share of the costs of operating the Finance Agency and the Office of Finance. For the three and six months ended June 30, 2022, these expenses totaled $23.5 million and $47.2 million compared to $25.7 million and $51.0 million for the corresponding periods in 2021.

Compensation and benefits were $10.1 million and $21.5 million for the three and six months ended June 30, 2022 compared to $13.5 million and $27.2 million for the corresponding periods in 2021. The decrease in compensation and benefits for the three and six months ended June 30, 2022, as compared to the corresponding periods in 2021, totaled $3.4 million and $5.7 million, respectively, and was due largely to lower expenses associated with the Bank's defined benefit pension plan and its non-qualified deferred compensation plans. Expenses associated with the Bank's defined benefit pension plan were $1.2 million and $2.5 million lower during the three and six months ended June 30, 2022 as compared to the corresponding periods in 2021. Compensation and benefits expense related to the non-qualified deferred compensation plans were $2.0 million and $3.0 million lower during the three and six months ended June 30, 2022 as compared to the corresponding periods in 2021 due to changes in the fair value of the assets associated with those plans. The Bank's average headcount was 195 and 204 employees for the six months ended June 30, 2022 and 2021, respectively. At June 30, 2022, the Bank employed 193 people, a decrease of 4 employees from December 31, 2021.

Other operating expenses for the three and six months ended June 30, 2022 were $9.7 million and $18.6 million compared to $8.8 million and $17.3 million for the corresponding periods in 2021, representing increases of $0.9 million and $1.3 million, respectively. The increase in other operating expenses for the three and six months ended June 30, 2022, as compared to the corresponding periods in 2021, resulted primarily from higher independent contractor costs. Independent contractor costs were $0.8 million and $1.2 million higher during the three and six months ended June 30, 2022 as compared to the corresponding periods in 2021.

The Bank, together with the other FHLBanks, is assessed for the costs of operating the Office of Finance and a portion of the costs of operating the Finance Agency. The Bank’s allocated share of these expenses totaled approximately $2.9 million and $6.0 million for the three and six months ended June 30, 2022 as compared to $2.9 million and $5.6 million for the corresponding periods in 2021.

AHP Assessments

While the Bank is exempt from all federal, state and local income taxes, it is obligated to set aside amounts for its Affordable Housing Program (“AHP”).

As required by statute, each year the Bank contributes 10 percent of its earnings (as adjusted for interest expense on mandatorily redeemable capital stock) to its AHP. The AHP provides grants that members can use to support affordable housing projects in their communities. Generally, the Bank’s AHP assessment is derived by adding interest expense on mandatorily redeemable capital stock to income before assessments; the result of this calculation is then multiplied by 10 percent. The Bank’s AHP assessments totaled $7.3 million and $3.1 million for the three months ended June 30, 2022 and 2021, respectively, and $11.9 million and $8.4 million for the six months ended June 30, 2022 and 2021, respectively.

Critical Accounting Policies and Estimates

A discussion of the Bank's critical accounting policies and the extent to which management uses judgment and estimates in applying those policies is provided in the 2021 10-K. There were no substantive changes to the Bank's critical accounting policies, or the extent to which management uses judgment and estimates in applying those policies, during the six months ended June 30, 2022.

Liquidity and Capital Resources

In order to meet members' credit needs and the Bank's financial obligations, the Bank maintains a portfolio of money market instruments typically consisting of overnight federal funds, overnight reverse repurchase agreements, overnight interest-bearing deposits, U.S. Treasury Bills and U.S. Treasury Notes. Beyond those amounts that are required to meet members' credit needs and its own obligations, the Bank typically holds additional balances of short-term investments that fluctuate as the Bank invests the proceeds of debt issued to replace maturing and called liabilities, as the balance of deposits changes, and as the level of liquidity needed to satisfy Finance Agency requirements changes. At June 30, 2022, the Bank's short-term liquidity holdings were comprised of a $14.2 billion overnight reverse repurchase agreement transacted with the Federal Reserve Bank of New York, $6.3 billion of overnight federal funds sold, $0.9 billion of overnight interest-bearing deposits, $0.8 billion of U.S. Treasury Bills and $0.6 billion of U.S. Treasury Notes.

The Bank's primary source of funds is the proceeds it receives from the issuance of consolidated obligation bonds and discount notes in the capital markets. Historically, the FHLBanks have issued debt throughout the business day in the form of discount notes and bonds with a wide variety of maturities and structures. Generally, the Bank has access to the capital markets as needed during the business day to acquire funds to meet its needs.

In addition to the liquidity provided from the proceeds of the issuance of consolidated obligations, the Bank also maintains access to wholesale funding sources such as federal funds purchased and securities sold under agreements to repurchase (e.g., borrowings secured by its investments in U.S. Treasury securities, MBS and/or agency debentures). Furthermore, the Bank has access to borrowings (typically short-term) from the other FHLBanks.

The 11 FHLBanks and the Office of Finance are parties to the Federal Home Loan Banks P&I Funding and Contingency Plan Agreement, as amended and restated effective January 1, 2017 (the "Contingency Agreement"). The Contingency Agreement and related procedures are designed to facilitate the timely funding of principal and interest payments on FHLBank System consolidated obligations in the event that a FHLBank is not able to meet its funding obligations in a timely manner. The Contingency Agreement and related procedures provide for the issuance of overnight consolidated obligations ("Plan COs") directly to one or more FHLBanks that provide funds to avoid a shortfall in the timely payment of principal and interest on any consolidated obligations for which another FHLBank is the primary obligor. The direct placement by a FHLBank of consolidated obligations with another FHLBank is permitted only in those instances when direct placement of consolidated obligations is necessary to ensure that sufficient funds are available to timely pay all principal and interest on FHLBank System consolidated obligations due on a particular day. Through the date of this report, no Plan COs have ever been issued pursuant to the terms of the Contingency Agreement.

On occasion, and as an alternative to issuing new debt, the Bank may assume the outstanding consolidated obligations for which other FHLBanks are the original primary obligors. This occurs in cases where the original primary obligor may have participated in a large consolidated obligation issue to an extent that exceeded its immediate funding needs in order to facilitate better market execution for the issue. The original primary obligor might then warehouse the funds until they were needed, or make the funds available to other FHLBanks. Transfers may also occur when the original primary obligor's funding needs change, and that FHLBank offers to transfer debt that is no longer needed to other FHLBanks. Transferred debt is typically fixed-rate, fixed-term, non-callable debt, and may be in the form of discount notes or bonds. The Bank participates in such transfers of funding from other FHLBanks when the transfer represents favorable pricing relative to a new issue of consolidated obligations with similar features. The Bank did not assume any consolidated obligations from other FHLBanks during the six months ended June 30, 2022 or 2021.

The Finance Agency's expectations with respect to the maintenance of sufficient liquidity to enable the FHLBanks to provide advances and fund letters of credit during a sustained capital markets disruption are set forth in an Advisory Bulletin and accompanying supervisory letter. More specifically, the Advisory Bulletin (hereinafter referred to as the "Liquidity AB") sets forth the Finance Agency's expectations with respect to base case liquidity and funding gaps, among other things. The Liquidity AB sets forth ranges for the prescribed base case liquidity and funding gap measures and the supervisory letter identified the initial thresholds within those ranges that the Finance Agency believed were appropriate in light of then existing market conditions. The Liquidity AB does not preclude a FHLBank from temporarily reducing its liquidity position, in a safe and sound manner, below the prescribed levels, as necessary to provide unanticipated advances to members or to fund draws on standby letters of credit.

With respect to base case liquidity, the Bank is required to maintain a positive cash balance during a prescribed period of time ranging from 10 to 30 calendar days assuming no access to the market for consolidated obligations or other unsecured funding sources and the renewal of all advances that are scheduled to mature during the measurement period. The supervisory letter sets forth the cash flow assumptions to be used by the FHLBanks which include, among other things, a reserve for potential draws on standby letters of credit and the inclusion of uncommitted/unencumbered U.S. Treasury securities with a remaining maturity no greater than 10 years which are classified as trading or available-for-sale securities as a cash inflow one business day after measurement.

Funding gaps measure the difference between a FHLBank's assets and liabilities that are scheduled to mature during a specified period, expressed as a percentage of the FHLBank's total assets. Depending on conditions in the financial markets, the Finance Agency believes (as stated in the Liquidity AB) that the FHLBanks should operate so as not to exceed a funding gap ratio between negative 10 percent and negative 20 percent for a three-month time horizon and between negative 25 percent and negative 35 percent for a one-year time horizon. These limits are designed to reduce the liquidity risks associated with a mismatch in a FHLBank's asset and liability maturities, including an undue reliance on short-term debt funding, which may increase a FHLBank's debt rollover risk. For purposes of calculating the funding gap ratios, the FHLBanks may include estimates of expected cash inflows, including anticipated prepayments, for mortgage loans and MBS. In addition, uncommitted/unencumbered U.S. Treasury securities with a remaining maturity no greater than 10 years which are classified as trading securities are treated as maturing assets in the three-month time horizon regardless of maturity.

On and after December 31, 2020, the Finance Agency considers a FHLBank to have adequate reserves of liquid assets if the FHLBank maintains 20 calendar days of positive daily cash balances. Further, the Finance Agency considers a FHLBank to have adequate liquidity to address funding gap risks if, on and after December 31, 2020, the FHLBank's funding gap ratios for the three-month and one-year time horizons do not exceed negative 20 percent and negative 35 percent, respectively. The Bank was in compliance with these liquidity requirements at all times during the six months ended June 30, 2022 with one exception. On one day during the three months ended June 30, 2022, the Bank's positive daily cash balance measurement fell to 15 calendar days due to unusually large and unforeseen advance demand. On the next day, the Bank issued consolidated obligations that were sufficient to increase this liquidity measurement beyond 20 days.

The Bank's access to the capital markets has never been interrupted to an extent that the Bank's ability to meet its obligations was compromised and the Bank does not currently believe that its ability to issue consolidated obligations will be impeded to that extent in the future. If, however, the Bank were unable to issue consolidated obligations for an extended period of time, the Bank would eventually exhaust the availability of purchased federal funds (including borrowings from other FHLBanks) and repurchase agreements as sources of funds. It is also possible that an event (such as a natural disaster or a pandemic like COVID-19) that might impede the Bank's ability to raise funds by issuing consolidated obligations would also limit the Bank's ability to access the markets for federal funds purchased and/or repurchase agreements.

Under those circumstances, to the extent that the balance of principal and interest that came due on the Bank's debt obligations and the funds needed to pay its operating expenses exceeded the cash inflows from its interest-earning assets and proceeds from maturing assets, and if access to the market for consolidated obligations was not again available, the Bank would seek to access funding under the Contingency Agreement to repay any principal and interest due on its consolidated obligations. However, if the Bank were unable to raise funds by issuing consolidated obligations, it is likely that the other FHLBanks would have similar difficulties issuing debt. If funds were not available under the Contingency Agreement, the Bank's ability to conduct its operations would be compromised even earlier than if this funding source was available.

Recently Issued Accounting Guidance

For a discussion of recently issued accounting guidance, see "Item 1. Financial Statements" (specifically, Note 2 beginning on page 8 of this report).

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The following quantitative and qualitative disclosures about market risk should be read in conjunction with the quantitative and qualitative disclosures about market risk that are included in the 2021 10-K. The information provided in this item is intended to update the disclosures made in the 2021 10-K.

As a financial intermediary, the Bank is subject to interest rate risk. Changes in the level of interest rates, the slope of the interest rate yield curve, and/or the relationships (or spreads) between interest yields for different instruments have an impact on the Bank's estimated market value of equity and its earnings. This risk arises from a variety of instruments that the Bank enters into on a regular basis in the normal course of its business.

The terms of member advances, investment securities, and consolidated obligations may present interest rate risk and/or embedded option risk. As discussed in Management's Discussion and Analysis of Financial Condition and Results of Operations, the Bank makes extensive use of interest rate derivative instruments, primarily interest rate swaps, swaptions and caps, to manage the risk arising from these sources.

The Bank has investments in residential mortgage-related assets, primarily CMOs and MPF mortgage loans, both of which present prepayment risk. This risk arises from the mortgagors' option to prepay their mortgages, making the effective maturities of these mortgage-based assets relatively more sensitive to changes in interest rates and other factors that affect the mortgagors' decisions to repay their mortgages as compared to other long-term investment securities that do not have prepayment features. A decline in interest rates generally accelerates mortgage refinancing activity, thus increasing prepayments and thereby shortening the effective maturity of the mortgage-related assets. Conversely, rising rates generally slow prepayment activity and lengthen a mortgage-related asset's effective maturity.

The Bank has managed the potential prepayment risk embedded in mortgage assets by purchasing securities that maintain their original principal balance for a fixed number of years, by purchasing highly structured tranches of mortgage securities that substantially limit the effects of prepayment risk, by issuing a combination of callable and non-callable debt with varying maturities, and/or by using interest rate derivative instruments to offset prepayment risk specific both to particular securities and to the overall mortgage portfolio.

The Bank's Enterprise Market Risk Management Policy provides a risk management framework for the financial management of the Bank consistent with the strategic principles outlined in its Strategic Business Plan. The Bank develops its funding and hedging strategies to manage its interest rate risk within the risk limits established in its Enterprise Market Risk Management Policy.

The Enterprise Market Risk Management Policy articulates the Bank's tolerance for the amount of overall interest rate risk the Bank will assume by limiting the maximum estimated loss in market value of equity that the Bank would incur under simulated 200 basis point changes in interest rates to 15 percent of the estimated base case market value. As reflected in the table below entitled "Market Value of Equity," the Bank was in compliance with this limit at June 30, 2022, March 31, 2022 and December 31, 2021.

As part of its ongoing risk management process, the Bank calculates an estimated market value of equity for a base case interest rate scenario and for interest rate scenarios that reflect parallel interest rate shocks. The base case market value of equity is calculated by determining the estimated fair value of each instrument on the Bank's balance sheet, and subtracting the estimated aggregate fair value of the Bank's liabilities from the estimated aggregate fair value of the Bank's assets. For purposes of these calculations, mandatorily redeemable capital stock is treated as equity rather than as a liability. The fair values of the Bank's financial instruments (both assets and liabilities) are determined using either vendor prices or a pricing model. For those instruments for which a pricing model is used, the calculations are based upon parameters derived from market conditions existing at the time of measurement, and are generally determined by discounting estimated future cash flows at the replacement (or similar) rate for new instruments of the same type with the same or very similar characteristics. The market value of equity calculations include non-financial assets and liabilities, such as premises and equipment, other assets, payables for AHP, and other liabilities at their recorded carrying amounts.

For purposes of compliance with the Bank's Enterprise Market Risk Management Policy limit on estimated losses in market value, market value of equity losses are defined as the estimated net sensitivity of the value of the Bank's equity (the net value of its portfolio of assets, liabilities and interest rate derivatives) to 200 basis point parallel shifts in interest rates.

The following table provides the Bank's estimated base case market value of equity and its estimated market value of equity under up and down 200 basis point interest rate shock scenarios (and, for comparative purposes, its estimated market value of equity under up and down 100 basis point interest rate shock scenarios) as of December 31, 2021, March 31, 2022 and June 30, 2022. In addition, the table provides the percentage change in estimated market value of equity under each of these shock scenarios as of those dates.

MARKET VALUE OF EQUITY

(dollars in billions)

		Up 200 Basis Points[(1)]		Down 200 Basis Points[(2)]		Up 100 Basis Points[(1)]		Down 100 Basis Points[(2)]	
	Base Case Market Value of Equity	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case
December 2021	$ 4.030	$ 3.927	(2.56)%	$ 4.189	3.95 %	$ 3.991	(0.97)%	$ 4.005	(0.62)%
March 2022	4.185	4.151	(0.83)%	3.999	(4.45)%	4.177	(0.19)%	4.129	(1.34)%
June 2022	4.815	4.831	0.33 %	4.666	(3.09)%	4.835	0.42 %	4.762	(1.10)%

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(1) In the up 100 and up 200 scenarios, the estimated market value of equity is calculated under assumed instantaneous +100 and +200 basis point parallel shifts in interest rates.

(2) In the down 100 and down 200 scenarios, the estimated market value of equity is calculated under assumed instantaneous -100 and -200 basis point parallel shifts in interest rates, subject to a floor of 0.01 percent.

A related measure of interest rate risk is duration of equity. Duration is the weighted average maturity (typically measured in months or years) of an instrument's cash flows, weighted by the present value of those cash flows. As such, duration provides an estimate of an instrument's sensitivity to small changes in market interest rates. The duration of assets is generally expressed as a positive figure, while the duration of liabilities is generally expressed as a negative number. The change in value of a specific instrument for given changes in interest rates will generally vary in inverse proportion to the instrument's duration. As market interest rates decline, instruments with a positive duration are expected to increase in value, while instruments with a negative duration are expected to decrease in value. Conversely, as interest rates rise, instruments with a positive duration are expected to decline in value, while instruments with a negative duration are expected to increase in value.

The values of instruments having relatively longer (or higher) durations are more sensitive to a given interest rate movement than instruments having shorter durations; that is, risk increases as the absolute value of duration lengthens. For instance, the value of an instrument with a duration of three years will theoretically change by three percent for every one percentage point (100 basis point) change in interest rates, while the value of an instrument with a duration of five years will theoretically change by five percent for every one percentage point change in interest rates.

The duration of individual instruments may be easily combined to determine the duration of a portfolio of assets or liabilities by calculating a weighted average duration of the instruments in the portfolio. These combinations provide a single straightforward metric that describes the portfolio's sensitivity to interest rate movements. These additive properties can be applied to the assets and liabilities on the Bank's balance sheet. The difference between the combined durations of the Bank's assets and the combined durations of its liabilities is sometimes referred to as duration gap and provides a measure of the relative interest rate sensitivities of the Bank's assets and liabilities.

Duration gap is a useful measure of interest rate sensitivity but does not account for the effect of leverage, or the effect of the absolute duration of the Bank's assets and liabilities, on the sensitivity of its estimated market value of equity to changes in interest rates. The inclusion of these factors results in a measure of the sensitivity of the value of the Bank's equity to changes in market interest rates referred to as the duration of equity. Duration of equity is the market value weighted duration of assets minus the market value weighted duration of liabilities divided by the market value of equity.

The significance of an entity's duration of equity is that it can be used to describe the sensitivity of the entity's market value of equity to movements in interest rates. A duration of equity equal to zero would mean, within a narrow range of interest rate movements, that the Bank had neutralized the impact of changes in interest rates on the market value of its equity.

A positive duration of equity would mean, within a narrow range of interest rate movements, that for each one year of duration the estimated market value of the Bank's equity would be expected to decline by about 0.01 percent for every positive 0.01 percent change in the level of interest rates. A positive duration generally indicates that the value of the Bank's assets is more sensitive to changes in interest rates than the value of its liabilities (i.e., that the duration of its assets is greater than the duration of its liabilities).

Conversely, a negative duration of equity would mean, within a narrow range of interest rate movements, that for each one year of negative duration the estimated market value of the Bank's equity would be expected to increase by about 0.01 percent for every positive 0.01 percent change in the level of interest rates. A negative duration generally indicates that the value of the Bank's liabilities is more sensitive to changes in interest rates than the value of its assets (i.e., that the duration of its liabilities is greater than the duration of its assets).

The following table provides information regarding the Bank's base case duration of equity as well as its duration of equity in up and down 100 and 200 basis point interest rate shock scenarios as of December 31, 2021, March 31, 2022 and June 30, 2022.

DURATION ANALYSIS

(expressed in years)

	Base Case Interest Rates				Duration of Equity			
	Asset Duration	Liability Duration	Duration Gap	Duration of Equity	Up 100[(1)]	Up 200[(1)]	Down 100[(2)]	Down 200[(2)]
December 2021	0.35	(0.36)	(0.01)	0.20	1.53	1.55	(1.42)	(4.45)
March 2022	0.38	(0.43)	(0.05)	(0.20)	0.49	0.80	(2.44)	(3.93)
June 2022	0.31	(0.38)	(0.07)	(0.69)	(0.14)	0.27	(1.58)	(2.20)

(1) In the up 100 and up 200 scenarios, the duration of equity is calculated under assumed instantaneous +100 and +200 basis point parallel shifts in interest rates.

(2) In the down 100 and down 200 scenarios, the duration of equity is calculated under assumed instantaneous -100 and -200 basis point parallel shifts in interest rates.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The Bank's management, under the supervision and with the participation of its Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the Bank's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report. Based upon that evaluation, the Bank's Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this report, the Bank's disclosure controls and procedures were effective in: (1) recording, processing, summarizing and reporting information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act within the time periods specified in the SEC's rules and forms and (2) ensuring that information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Bank's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures.

Changes in Internal Control Over Financial Reporting

There were no changes in the Bank's internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended June 30, 2022 that have materially affected, or are reasonably likely to materially affect, the Bank's internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 6. EXHIBITS

31.1	Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of principal executive officer and principal financial officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
EX-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.
EX-101.SCH	Inline XBRL Taxonomy Extension Schema Document.
EX-101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
EX-101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
EX-101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
EX-101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
EX-104	The cover page of this Quarterly Report on Form 10-Q, formatted in inline XBRL and contained in Exhibit 101.

SIGNATURES

Pursuant to the requirements 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.

August 11, 2022	By	/s/ Tom Lewis
Date		Tom Lewis
		Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

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