FEDERAL HOME LOAN BANKS

Combined Financial Report
for the Quarterly Period Ended June 30, 2020

This Combined Financial Report provides financial information on the Federal Home Loan Banks. The Federal Home Loan Banks issue consolidated bonds and consolidated discount notes (collectively referred to as consolidated obligations). Consolidated obligations are joint and several obligations of all Federal Home Loan Banks, which means that each individual Federal Home Loan Bank is responsible for the payment of principal and interest on all consolidated obligations. Each Federal Home Loan Bank is a separately chartered entity with its own board of directors and management. There is no centralized, system-wide management or oversight by a single board of directors of the Federal Home Loan Banks.

Federal Home Loan Bank consolidated obligations are not obligations of the United States and are not guaranteed by the United States. No person other than the Federal Home Loan Banks will have any obligations or liability with respect to consolidated obligations.

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

Carefully consider the risk factors provided in this and other Combined Financial Reports of the Federal Home Loan Banks (collectively referred to as Combined Financial Reports). Neither the Combined Financial Reports nor any offering materials provided by, or on behalf of, the Federal Home Loan Banks describe all the risks of investing in consolidated obligations. Investors should consult with their financial and legal advisors about the risks of investing in consolidated obligations.

The financial information contained in this Combined Financial Report is for the quarterly period ended June 30, 2020. This Combined Financial Report should be read in conjunction with the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, issued on March 27, 2020. Combined Financial Reports are available on the Federal Home Loan Banks Office of Finance web site at fhlb-of.com. This web site address is provided as a matter of convenience only, and its contents are not made part of or incorporated by reference into this report.

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

This Combined Financial Report was issued on August 13, 2020.

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EXPLANATORY STATEMENT ABOUT FEDERAL HOME LOAN BANKS COMBINED FINANCIAL REPORT

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

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

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

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

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

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

Each FHLBank is subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and must file periodic reports and other information with the SEC. Each FHLBank prepares an annual financial report, filed on SEC Form 10-K, quarterly financial reports, filed on SEC Form 10-Q, and current reports, filed on SEC Form 8-K. Those reports contain additional information that is not contained in this Combined Financial Report. An investor should review those reports and other available information on individual FHLBanks to obtain additional detail on each FHLBank's business, risk profile, financial condition, results of operations, and accounting and financial reporting policies. Periodic reports and other information filed by each FHLBank with the SEC are made available on its web site and on the SEC's web site at sec.gov. References to web sites and to reports and other information filed by individual FHLBanks with the SEC are provided as a matter of convenience only, and their contents are not made part of or incorporated by reference into this report.

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CONDITION
(Unaudited)

(dollars in millions, except par value)	June 30, 2020	December 31, 2019
Assets		
Cash and due from banks	$ 5,807	$ 4,960
Interest-bearing deposits *(Note 3)*	13,255	14,429
Securities purchased under agreements to resell *(Note 3)*	41,514	70,094
Federal funds sold *(Note 3)*	53,654	51,357
Investment securities *(Note 3)*		
Trading securities	63,510	54,854
Available-for-sale securities, net, amortized cost of $108,354 and $103,179	108,312	104,033
Held-to-maturity securities, net, fair value of $72,233 and $80,946	70,802	80,228
Total investment securities	242,624	239,115
Advances, includes $5,364 and $7,183 at fair value held under fair value option *(Note 4)*	557,547	641,519
Mortgage loans held for portfolio, net *(Note 5)*	72,912	72,492
Accrued interest receivable	1,426	1,971
Derivative assets, net *(Note 6)*	2,160	1,731
Other assets, net	1,431	1,445
Total assets	$ 992,330	$ 1,099,113
Liabilities		
Deposits *(Note 7)*	$ 15,793	$ 10,404
Consolidated obligations *(Note 8)*		
Discount notes, includes $32,308 and $32,539 at fair value held under fair value option	391,471	404,035
Bonds, includes $5,949 and $25,212 at fair value held under fair value option	526,394	622,161
Total consolidated obligations	917,865	1,026,196
Mandatorily redeemable capital stock	1,097	1,378
Accrued interest payable	1,063	1,791
Affordable Housing Program payable	1,067	1,088
Derivative liabilities, net *(Note 6)*	151	77
Other liabilities	2,795	2,752
Total liabilities	939,831	1,043,686
Commitments and contingencies *(Note 12)*		
Capital *(Note 9)*		
Capital stock		
Class B putable ($100 par value) issued and outstanding shares	31,584	34,047
Class A putable ($100 par value) issued and outstanding shares	501	448
Total capital stock	32,085	34,495
Retained earnings		
Unrestricted	16,046	15,686
Restricted	5,163	4,902
Total retained earnings	21,209	20,588
Accumulated other comprehensive income (loss) *(Note 10)*	(795)	344
Total capital	52,499	55,427
Total liabilities and capital	$ 992,330	$ 1,099,113

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF INCOME
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
(dollars in millions)	2020	2019	2020	2019
Interest income				
Advances	$ 1,765	$ 4,592	$ 4,657	$ 9,364
Interest-bearing deposits	6	86	72	170
Securities purchased under agreements to resell	6	352	183	637
Federal funds sold	13	425	240	884
Investment securities				
Trading securities	279	203	587	331
Available-for-sale securities	372	659	863	1,327
Held-to-maturity securities	310	642	775	1,306
Total investment securities	961	1,504	2,225	2,964
Mortgage loans held for portfolio	496	550	1,062	1,112
Other	—	—	1	2
Total interest income	3,247	7,509	8,440	15,133
Interest expense				
Consolidated obligations				
Discount notes	652	2,526	2,175	5,087
Bonds	1,332	3,821	4,042	7,554
Total consolidated obligations	1,984	6,347	6,217	12,641
Deposits	1	42	28	82
Mandatorily redeemable capital stock	14	17	32	33
Total interest expense	1,999	6,406	6,277	12,756
Net interest income	1,248	1,103	2,163	2,377
Provision (reversal) for credit losses	8	—	51	1
Net interest income after provision (reversal) for credit losses	1,240	1,103	2,112	2,376
Non-interest income				
Net gains (losses) on investment securities	(142)	312	1,032	417
Net gains (losses) on financial instruments held under fair value option	87	42	143	65
Net gains (losses) on derivatives and hedging activities	(97)	(366)	(1,218)	(474)
Other, net	73	45	156	88
Total non-interest income (loss)	(79)	33	113	96
Non-interest expense				
Compensation and benefits	190	169	402	349
Other operating expenses	126	131	238	238
Federal Housing Finance Agency	19	17	38	35
Office of Finance	14	14	31	29
Other	53	15	58	29
Total non-interest expense	402	346	767	680
Net income before assessments	759	790	1,458	1,792
Affordable Housing Program assessments	77	81	149	183
Net income	$ 682	$ 709	$ 1,309	$ 1,609

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF COMPREHENSIVE INCOME
(Unaudited)

(dollars in millions)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Net income	$ 682	$ 709	$ 1,309	$ 1,609
Other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	1,053	17	(865)	247
Net non-credit portion of other-than-temporary impairment gains (losses) on investment securities	8	8	37	27
Net unrealized gains (losses) relating to hedging activities	(16)	(128)	(307)	(198)
Pension and postretirement benefits	2	(1)	(4)	5
Total other comprehensive income (loss)	1,047	(104)	(1,139)	81
Comprehensive income (loss)	$ 1,729	$ 605	$ 170	$ 1,690

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CAPITAL
THREE MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

	Capital Stock - Putable			
	Class B		Class A	
(dollars and shares in millions)	Shares	Par Value	Shares	Par Value
Balance, March 31, 2020	406	$ 40,589	4	$ 448
Adjustment for cumulative effect of accounting change	—	—	—	—
Partial recovery of prior capital distribution to Financing Corporation	—	—	—	—
Comprehensive income (loss)	—	—	—	—
Proceeds from sale of capital stock	38	3,845	—	1
Repurchase/redemption of capital stock	(121)	(12,043)	—	—
Net shares reclassified (to)/from mandatorily redeemable capital stock	(3)	(313)	(4)	(469)
Transfers between Class B and Class A shares	(5)	(521)	5	521
Dividends on capital stock				
Cash	—	—	—	—
Stock	1	27	—	—
Balance, June 30, 2020	316	$ 31,584	5	$ 501
Balance, March 31, 2019	356	$ 35,587	2	$ 198
Adjustment for cumulative effect of accounting change	—	—	—	—
Comprehensive income (loss)	—	—	—	—
Proceeds from sale of capital stock	116	11,623	—	1
Repurchase/redemption of capital stock	(102)	(10,170)	(2)	(234)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(4)	(353)	(1)	(34)
Transfers between Class B and Class A shares	(3)	(285)	3	285
Dividends on capital stock				
Cash	—	—	—	—
Stock	1	43	—	—
Balance, June 30, 2019	364	$ 36,445	2	$ 216

Capital Stock - Putable						
Total		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
Shares	Par Value	Unrestricted	Restricted	Total		
410	$ 41,037	$ 15,701	$ 5,028	$ 20,729	$ (1,842)	$ 59,924
—	—	—	—	—	—	—
—	—	200	—	200	—	200
—	—	547	135	682	1,047	1,729
38	3,846	—	—	—	—	3,846
(121)	(12,043)	—	—	—	—	(12,043)
(7)	(782)	—	—	—	—	(782)
—	—	—	—	—	—	—
—	—	(375)	—	(375)	—	(375)
1	27	(27)	—	(27)	—	—
321	$ 32,085	$ 16,046	$ 5,163	$ 21,209	$ (795)	$ 52,499
358	$ 35,785	$ 15,408	$ 4,441	$ 19,849	$ 527	$ 56,161
—	—	—	—	—	—	—
—	—	565	144	709	(104)	605
116	11,624	—	—	—	—	11,624
(104)	(10,404)	—	—	—	—	(10,404)
(5)	(387)	—	—	—	—	(387)
—	—	—	—	—	—	—
—	—	(498)	—	(498)	—	(498)
1	43	(43)	—	(43)	—	—
366	$ 36,661	$ 15,432	$ 4,585	$ 20,017	$ 423	$ 57,101

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CAPITAL
SIX MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

	Capital Stock - Putable			
	Class B		Class A	
(dollars and shares in millions)	Shares	Par Value	Shares	Par Value
Balance, December 31, 2019	340	$ 34,047	4	$ 448
Adjustment for cumulative effect of accounting change	—	—	—	—
Partial recovery of prior capital distribution to Financing Corporation	—	—	—	—
Comprehensive income (loss)	—	—	—	—
Proceeds from issuance of capital stock	212	21,224	—	1
Repurchases/redemptions of capital stock	(221)	(22,152)	—	—
Net shares reclassified (to)/from mandatorily redeemable capital stock	(9)	(888)	(6)	(662)
Transfers between Class B and Class A shares	(7)	(714)	7	714
Dividends on capital stock				
Cash	—	—	—	—
Stock	1	67	—	—
Balance, June 30, 2020	316	$ 31,584	5	$ 501
Balance, December 31, 2018	383	$ 38,251	2	$ 247
Adjustment for cumulative effect of accounting changes	—	—	—	—
Comprehensive income (loss)	—	—	—	—
Proceeds from issuance of capital stock	205	20,516	—	1
Repurchases/redemptions of capital stock	(215)	(21,424)	(5)	(572)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(4)	(392)	(1)	(52)
Transfers between Class B and Class A shares	(6)	(592)	6	592
Dividends on capital stock				
Cash	—	—	—	—
Stock	1	86	—	—
Balance, June 30, 2019	364	$ 36,445	2	$ 216

Capital Stock - Putable		Retained Earnings			Accumulated Other Comprehensive Income (Loss)	Total Capital
Total						
Shares	Par Value	Unrestricted	Restricted	Total		
344	$ 34,495	$ 15,686	$ 4,902	$ 20,588	$ 344	$ 55,427
—	—	(28)	—	(28)	—	(28)
—	—	200	—	200	—	200
—	—	1,048	261	1,309	(1,139)	170
212	21,225	—	—	—	—	21,225
(221)	(22,152)	—	—	—	—	(22,152)
(15)	(1,550)	—	—	—	—	(1,550)
—		—	—	—	—	—
—	—	(793)	—	(793)	—	(793)
1	67	(67)	—	(67)	—	—
321	$ 32,085	$ 16,046	$ 5,163	$ 21,209	$ (795)	$ 52,499
385	$ 38,498	$ 15,241	$ 4,263	$ 19,504	$ 342	$ 58,344
—	—	15	—	15	—	15
—	—	1,287	322	1,609	81	1,690
205	20,517	—	—	—	—	20,517
(220)	(21,996)	—	—	—	—	(21,996)
(5)	(444)	—	—	—	—	(444)
—	—	—	—	—	—	—
—	—	(1,025)	—	(1,025)	—	(1,025)
1	86	(86)	—	(86)	—	—
366	$ 36,661	$ 15,432	$ 4,585	$ 20,017	$ 423	$ 57,101

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

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CASH FLOWS
(Unaudited)

(dollars in millions)	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Operating activities		
Net income	$ 1,309	$ 1,609
Adjustments to reconcile net income to net cash provided by operating activities		
Depreciation and amortization	(239)	160
Net change in derivatives and hedging activities	(7,400)	(3,667)
Net change in fair value adjustments on trading securities	(807)	(398)
Net change in fair value adjustments on financial instruments held under fair value option	(143)	(65)
Other adjustments, net	(128)	15
Net change in		
Trading securities	(72)	(1,252)
Accrued interest receivable	523	(300)
Other assets	(11)	20
Accrued interest payable	(758)	167
Other liabilities	(110)	(22)
Total adjustments	(9,145)	(5,342)
Net cash provided by (used in) operating activities	(7,836)	(3,733)
Investing activities		
Net change in		
Interest-bearing deposits	(3,003)	3,678
Securities purchased under agreements to resell	28,580	(13,140)
Federal funds sold	(2,297)	(20,611)
Trading securities		
Proceeds	25,396	22,435
Purchases	(33,155)	(41,963)
Available-for-sale securities		
Proceeds	7,204	10,641
Purchases	(7,046)	(13,915)
Held-to-maturity securities		
Proceeds	14,695	10,348
Purchases	(5,237)	(7,399)
Advances		
Repaid	2,995,003	4,742,648
Originated	(2,903,717)	(4,699,664)
Mortgage loans held for portfolio		
Principal collected	11,136	3,694
Purchases	(11,654)	(7,776)
Other investing activities, net	(30)	(42)
Net cash provided by (used in) investing activities	115,875	(11,066)

FEDERAL HOME LOAN BANKS
COMBINED STATEMENT OF CASH FLOWS (continued)
(Unaudited)

	Six Months Ended June 30,	
(dollars in millions)	2020	2019
Financing activities		
Net change in deposits and pass-through reserves, and other financing activities	$ 5,480	$ 1,110
Net proceeds (payments) on derivative contracts with financing element	(379)	(200)
Net proceeds from issuance of consolidated obligations		
Discount notes	2,133,651	3,443,713
Bonds	272,329	280,584
Payments for maturing and retiring consolidated obligations		
Discount notes	(2,145,872)	(3,443,629)
Bonds	(369,046)	(263,860)
Proceeds from issuance of capital stock	21,225	20,517
Payments for repurchases/redemptions of capital stock	(22,152)	(21,996)
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(1,835)	(271)
Cash dividends paid	(793)	(1,022)
Partial recovery of prior capital distribution to Financing Corporation	200	—
Net cash provided by (used in) financing activities	(107,192)	14,946
Net increase (decrease) in cash and due from banks	847	147
Cash and due from banks at beginning of the period	4,960	522
Cash and due from banks at end of the period	$ 5,807	$ 669
Supplemental disclosures		
Interest paid	$ 7,613	$ 12,264
Affordable Housing Program payments, net	$ 169	$ 170
Transfer of held-to-maturity securities to available-for-sale securities with the adoption of the new hedge accounting guidance	$ —	$ 1,597

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

NOTES TO COMBINED FINANCIAL STATEMENTS (Unaudited)

Background Information

These financial statements present the combined financial position and combined results of operations of the Federal Home Loan Banks (FHLBanks). The FHLBanks are government-sponsored enterprises (GSEs) that were organized under the Federal Home Loan Bank Act of 1932, as amended (FHLBank Act), to serve the public by enhancing the availability of credit for residential mortgages and targeted community development. They are financial cooperatives that provide a readily available, competitively-priced source of funds to their member institutions. Each FHLBank operates as a separate entity with its own management, employees, and board of directors. The FHLBanks do not have any special purpose entities or any other type of off-balance sheet conduits.

The Federal Housing Finance Agency (FHFA) is the independent Federal regulator of the FHLBanks, Federal Home Loan Mortgage Corporation (Freddie Mac), and Federal National Mortgage Association (Fannie Mae). The FHFA's stated mission is to ensure that the housing GSEs operate in a safe and sound manner so that they serve as a reliable source of liquidity and funding for housing finance and community investment.

The Office of Finance is a joint office of the FHLBanks established to facilitate the issuance and servicing of the debt instruments of the FHLBanks, known as consolidated obligations (consolidated bonds and consolidated discount notes), and to prepare the quarterly and annual combined financial reports of the FHLBanks. As provided by the FHLBank Act, and applicable regulations, consolidated obligations are backed only by the financial resources of the FHLBanks. Consolidated obligations are the primary source of funds for the FHLBanks in addition to deposits, other borrowings, and capital stock issued to members. The FHLBanks primarily use these funds to provide advances to members. Certain FHLBanks also use these funds to acquire mortgage loans from members (acquired member assets) through their respective FHLBank's Mortgage Purchase Program (MPP) or the Mortgage Partnership Finance® (MPF®) Program. "Mortgage Partnership Finance," "MPF," and "MPF Xtra" are registered trademarks of the FHLBank of Chicago. In addition, some FHLBanks offer correspondent services to their member institutions, including wire transfer, security safekeeping, and settlement services.

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

Note 1 - Summary of Significant Accounting Policies

These unaudited quarterly combined financial statements do not include all disclosures associated with annual combined financial statements, and therefore should be read in conjunction with the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019. In addition, the results of operations for interim periods are not necessarily indicative of the results to be expected for the year ending December 31, 2020.

Basis of Presentation

These combined financial statements include the financial statements and records of the FHLBanks that are prepared in accordance with generally accepted accounting principles in the United States of America (GAAP). The information contained in these combined financial statements is not audited. Each FHLBank's financial statements, in the opinion of its management, contain all the necessary adjustments for a fair statement of its interim financial information.

Principles of Combination. Transactions between the FHLBanks have been eliminated in accordance with combination accounting principles similar to consolidation under GAAP. (See the *Condensed Combining Schedules* for the combining adjustments, consisting of interbank eliminations and rounding adjustments, made to the combined financial statements.)

Segment Reporting. FHFA regulations consider each FHLBank to be a segment. However, there is no single chief operating decision maker because there is no centralized, system-wide management or centralized board of director oversight of the individual FHLBanks. (See the *Condensed Combining Schedules* for segment information.)

Use of Estimates

The preparation of financial statements in accordance with GAAP requires each FHLBank's management to make subjective assumptions and estimates that may affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expense. The most significant of these estimates include those used in conjunction with fair value estimates and derivatives and hedging activities. Actual results could differ from these estimates significantly.

Financial Instruments Meeting Netting Requirements

The FHLBanks present certain financial instruments on a net basis when they have a legal right of offset and all other requirements for netting are met (collectively referred to as the netting requirements). For these financial instruments, each of the affected FHLBanks has elected to offset its asset and liability positions, as well as cash collateral received or pledged, when it has met the netting requirements.

The net exposure for these financial instruments can change on a daily basis; therefore, there may be a delay between the time this exposure change is identified and additional collateral is requested, and the time when this collateral is received or pledged. Likewise, there may be a delay for excess collateral to be returned. For derivative instruments that meet the netting requirements, any excess cash collateral received or pledged is recognized as a derivative liability or derivative asset. (See *Note 6 - Derivatives and Hedging Activities* for additional information regarding these agreements.)

Securities purchased under agreements to resell are also subject to netting requirements. Based on the fair value of the related collateral held, securities purchased under agreements to resell were fully collateralized for the periods presented. There were no offsetting liabilities related to these securities at June 30, 2020 or December 31, 2019.

Coronavirus Aid, Relief, and Economic Security Act (Troubled Debt Restructuring Relief)

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) was signed into law. Section 4013 of the CARES Act provides optional, temporary relief from the accounting and reporting requirements for troubled debt restructurings (TDRs) for certain loan modifications for which borrowers were adversely affected by COVID-19 (hereinafter referred to as COVID-related modifications) granted to borrowers that were not more than 30 days past due on payments as of December 31, 2019. Specifically, the CARES Act provides that a financial institution may elect to suspend: (1) the requirements under GAAP for certain loan modifications that would otherwise be categorized as a TDR, and (2) any determination that such loan modifications would be considered a TDR, including the related impairment for accounting purposes. TDR relief applies to COVID-related modifications made from March 1, 2020, until the earlier of December 31, 2020, or 60 days following the termination of the national emergency declared by the President of the United States on March 13, 2020. In the second quarter of 2020, the FHLBanks elected to apply the TDR relief provided by the CARES Act.

As such, all COVID-related modifications meeting the provisions of the CARES Act are excluded from TDR classification and accounting, and the FHLBanks consider these loans to have a current payment status as long as payments are being made in accordance with the new terms. Alternatively, COVID-related modifications that do not meet the provisions of the CARES Act continue to be assessed for TDR classification under the FHLBanks' existing accounting policies. Additionally, the FHLBanks continue to apply their delinquency, non-accrual loans, and charge-off policies during the forbearance plan period. The FHLBanks estimate the allowance for credit losses for COVID-related modifications similar to other mortgage loans held for portfolio.

Update to Significant Accounting Policies - Measurement of Credit Losses on Financial Instruments

Beginning January 1, 2020, the FHLBanks adopted new accounting guidance pertaining to the measurement of credit losses on financial instruments that requires a financial asset or group of financial assets measured at amortized cost to be presented at the net amount expected to be collected. The new guidance also requires credit losses relating to these financial instruments as well as available-for-sale securities to be recorded through an allowance for credit losses. Key changes as compared to prior accounting guidance are detailed below. Consistent with the modified retrospective method of adoption, the prior period has not been revised to conform to the new basis of accounting. (See *Note 1 - Summary of Significant Accounting Policies* on pages F-12 to F-22 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for information on the prior accounting treatment.)

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

The FHLBanks invest in interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold. These investments provide short-term liquidity and are carried at amortized cost. Accrued interest receivable is recorded separately on the Combined Statement of Condition.

These investments are evaluated quarterly for expected credit losses. If applicable, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. The FHLBanks use the collateral maintenance provision practical expedient, which allows expected credit losses to be measured based on the difference between the fair value of the collateral and the investment's amortized cost, for securities purchased under agreements to resell. Consequently, a credit loss would be recognized if there is a collateral shortfall which the FHLBanks do not believe the counterparty will replenish in accordance with its contractual terms. The credit loss would be limited to the difference between the fair value of the collateral and the investment's amortized cost.

See *Note 3 - Investments* for details on the allowance methodologies relating to these investments.

Investment Securities

Available-for-Sale. For securities classified as available-for-sale (AFS), each FHLBank evaluates an individual security for impairment on a quarterly basis by comparing the security's fair value to its amortized cost. Accrued interest receivable is recorded separately on the Combined Statement of Condition. Impairment exists when the fair value of the investment is less than its amortized cost (i.e., in an unrealized loss position). In assessing whether a credit loss exists on an impaired security, an FHLBank considers whether there would be a shortfall in receiving all cash flows contractually due. When a shortfall is considered possible, an FHLBank compares the present value of cash flows to be collected from the security with the amortized cost basis of the security. If the present value of cash flows is less than amortized cost, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. The allowance is limited by the amount of the unrealized loss. The allowance for credit losses excludes uncollectible accrued interest receivable, which is measured separately.

If management intends to sell an impaired security classified as AFS, or more likely than not will be required to sell the security before expected recovery of its amortized cost basis, any allowance for credit losses is written off and the amortized cost basis is written down to the security's fair value at the reporting date with any incremental impairment reported in earnings as net gains (losses) on investment securities. If management does not intend to sell an impaired security classified as AFS and it is not more likely than not that management will be required to sell the debt security, then the credit portion of the difference is recognized as an allowance for credit losses and any remaining difference between the security's fair value and amortized cost is recorded as net unrealized gains (losses) on AFS securities within other comprehensive income (loss) (OCI).

Prior to January 1, 2020, credit losses were recorded as a direct write-down of the AFS security's carrying value. For improvements in cash flows of AFS securities, interest income follows the recognition pattern pursuant to the impairment guidance in effect prior to January 1, 2020 and recoveries of amounts previously written off are recorded when received. AFS securities with an other-than-temporary impairment (OTTI) recognized pursuant to the impairment guidance in effect prior to January 1, 2020 continue to follow the prior accounting until maturity or disposition. For improvements in impaired AFS securities with an allowance for credit losses recognized after the adoption of the new guidance, the allowance for credit losses associated with recoveries may be derecognized up to its full amount. Effective January 1, 2020, the net non-credit portion of OTTI gains (losses) on AFS securities was reclassified to net unrealized gains (losses) on AFS securities within OCI.

Held-to-Maturity. Securities that the FHLBanks have both the ability and intent to hold to maturity are classified as held-to-maturity (HTM) and are carried at amortized cost, which is original cost net of periodic principal repayments and amortization of premiums and accretion of discounts, adjusted for OTTI losses recorded prior to January 1, 2020. Accrued interest receivable is recorded separately on the Combined Statement of Condition.

HTM securities are evaluated quarterly for expected credit losses on a pool basis unless an individual assessment is deemed necessary because the securities do not possess similar risk characteristics. An allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. The allowance for credit losses excludes uncollectible accrued interest receivable, which is measured separately. Prior to January 1, 2020, credit losses were recorded as a direct write-down of the HTM security's carrying value.

For improvements in HTM securities impaired prior to January 1, 2020, interest income continues to follow the recognition pattern pursuant to the impairment guidance in effect prior to January 1, 2020 and recoveries of amounts previously written off are recorded when received. For improvements in impaired HTM securities with an allowance for credit losses recognized after the adoption of the new guidance, the allowance for credit losses associated with recoveries may be derecognized up to its full amount.

See *Note 3 - Investments* for details on the allowance methodologies relating to AFS and HTM securities.

Advances

Advances are reported either at amortized cost or at fair value when the fair value option has been elected. Advances recorded at amortized cost are reported net of premiums, discounts (including discounts related to the Affordable Housing Program (AHP)), unearned commitment fees, and hedging adjustments. Accrued interest receivable is recorded separately on the Combined Statement of Condition. The advances carried at amortized cost are evaluated quarterly for expected credit losses. If deemed necessary, an allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses. (See *Note 4 - Advances* for details on the allowance methodology relating to advances.)

Mortgage Loans Held for Portfolio

Mortgage loans held for portfolio are reported at amortized cost, net of premiums, discounts, deferred loan fees or costs, hedging adjustments, and charge-offs. Accrued interest receivable is recorded separately on the Combined Statement of Condition. Each FHLBank performs a quarterly assessment of its mortgage loans held for portfolio to estimate expected credit losses. An allowance for credit losses is recorded with a corresponding adjustment to the provision (reversal) for credit losses.

Each FHLBank measures expected credit losses on mortgage loans on a collective basis, pooling loans with similar risk characteristics. If a mortgage loan no longer shares risk characteristics with other loans, it is removed from the pool and evaluated for expected credit losses on an individual basis.

When developing the allowance for credit losses, an FHLBank measures the expected loss over the estimated remaining life of a mortgage loan, which also considers how the FHLBank's credit enhancements mitigate credit losses. If a loan is purchased at a discount, the discount does not offset the allowance for credit losses. The allowance excludes uncollectible accrued interest receivable, as the FHLBanks write off accrued interest receivable by reversing interest income if a mortgage loan is placed on nonaccrual status.

The FHLBanks do not purchase mortgage loans with credit deterioration present at the time of purchase. The FHLBanks include estimates of expected recoveries within the allowance for credit losses. (See *Note 5 - Mortgage Loans* for details on the allowance methodologies relating to mortgage loans.)

Off-Balance Sheet Credit Exposures

The FHLBanks evaluate their off-balance sheet credit exposures on a quarterly basis for expected credit losses. If deemed necessary, an allowance for expected credit losses on these off-balance sheet exposures is recorded in other liabilities with a corresponding adjustment to the provision (reversal) for credit losses. (See *Note 12 - Commitments and Contingencies* for details on the allowance methodologies relating to off-balance sheet credit exposures.)

Note 2 - Recently Issued and Adopted Accounting Guidance

The following tables provide a summary of recently issued and adopted accounting standards which may have an effect on the combined financial statements.

Recently Issued Accounting Guidance, Not Yet Adopted:

Accounting Standards Update (ASU)	Description	Effective Date	Effect on the Combined Financial Statements or Other Significant Matters
Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASU 2020-04)	This guidance provides temporary optional guidance to ease the potential burden in accounting for reference rate reform. The new guidance provides optional expedients and exceptions for applying generally accepted accounting principles to transactions affected by reference rate reform if certain criteria are met. These transactions include: • contract modifications, • hedging relationships, and • sale and/or transfer of debt securities classified as HTM.	This guidance is effective immediately for the FHLBanks, and they may elect to apply the amendments prospectively through December 31, 2022.	The FHLBanks have assessed the guidance and plan to elect the majority of the optional expedients and exceptions provided; however, the effect on the FHLBanks' combined financial condition, combined results of operations, and combined cash flows has not yet been determined. As discussed in *Note 13 - Subsequent Events*, the FHLBank of Boston sold or transferred to AFS certain HTM securities during the third quarter of 2020, pursuant to the guidance.
Changes to the Disclosure Requirements for Defined Benefit Plans (ASU 2018-14)	This guidance eliminates certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans to improve disclosure effectiveness, particularly for those requirements that are no longer considered cost beneficial. In addition, the guidance adds certain requirements identified as relevant, and clarifies specific requirements of certain disclosures.	This guidance becomes effective for the FHLBanks for the annual period ending December 31, 2020, and the annual periods thereafter. Early adoption is permitted.	The FHLBanks will adopt this guidance for the year ending December 31, 2020. The adoption of this guidance may affect the FHLBanks' disclosures but it will not have any effect on the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.

Recently Adopted Accounting Guidance:

ASU	Description	Effective Date	Effect on the Combined Financial Statements or Other Significant Matters
Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (ASU 2018-15)	This guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license).	This guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2020.	The FHLBanks adopted this guidance as of January 1, 2020. The adoption of this guidance did not have a material effect on the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.
Changes to the Disclosure Requirements for Fair Value Measurement (ASU 2018-13)	The objective of this guidance is to improve the effectiveness of disclosures in the fair value note. This guidance removes certain disclosure requirements for level 1, level 2, and level 3 of the fair value hierarchy, modifies other guidance, and adds new requirements.	This guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2020.	The FHLBanks adopted this guidance as of January 1, 2020. The adoption of this guidance affected the FHLBanks' disclosures. However, it did not have any effect on the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.
Measurement of Credit Losses on Financial Instruments, as amended (ASU 2016-13)	The guidance replaces the current incurred loss impairment model and requires entities to measure expected credit losses based on consideration of a broad range of relevant information, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. The guidance also requires, among other things, credit losses relating to available-for-sale debt securities to be recorded through an allowance for credit losses and expands disclosure requirements.	This guidance became effective for the FHLBanks for the interim and annual periods beginning on January 1, 2020.	The FHLBanks adopted this guidance as of January 1, 2020. The adoption of this guidance had no effect on advances, U.S. obligations, or GSE investments, and an immaterial effect on the FHLBanks' remaining financial instruments given the specific terms, issuer guarantees, and collateralized/securitized nature of these instruments. As a result, the adoption of this guidance did not have a material effect on the FHLBanks' combined financial condition, combined results of operations, or combined cash flows.

Note 3 - Investments

The FHLBanks make short-term investments in interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold and may make other investments in debt securities, which are classified as either trading, AFS, or HTM.

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

The FHLBanks invest in interest-bearing deposits, securities purchased under agreements to resell, and federal funds sold to provide short-term liquidity. These investments are generally transacted with counterparties that have received a credit rating of triple-B or greater (investment grade) by a nationally recognized statistical rating organization. At June 30, 2020, none of these investments were with counterparties rated below triple-B and 7.8% of these investments, based on amortized cost, were with counterparties that are unrated. These may differ from any internal ratings of the investments by an FHLBank, if applicable.

Federal funds sold are unsecured loans that are generally transacted on an overnight term. FHFA regulations include a limit on the amount of unsecured credit an individual FHLBank may extend to a counterparty. At June 30, 2020 and December 31, 2019, all investments in interest-bearing deposits and federal funds sold were repaid or expected to be repaid according to the contractual terms. No allowance for credit losses was recorded for these assets at June 30, 2020 and December 31, 2019. The carrying values of interest-bearing deposits and federal funds sold exclude accrued interest receivable of $1 million and less than $1 million as of June 30, 2020, and $10 million and $12 million as of December 31, 2019.

Securities purchased under agreements to resell are short-term collateralized loans and are structured such that they are evaluated regularly to determine if the market value of the underlying securities decreases below the market value required as collateral (i.e., subject to collateral maintenance provisions). If so, the counterparty must place an equivalent amount of additional securities as collateral or remit an equivalent amount of cash, generally by the next business day. Based upon the collateral held as security and collateral maintenance provisions with their counterparties, each FHLBank determined that no allowance for credit losses was needed for its securities purchased under agreements to resell at June 30, 2020 and December 31, 2019. The carrying value of securities purchased under agreements to resell excludes accrued interest receivable of less than $1 million and $8 million as of June 30, 2020 and December 31, 2019.

Debt Securities

The FHLBanks invest in debt securities, which are classified as trading, AFS, or HTM. Within these investments, the FHLBanks are primarily subject to credit risk related to private-label mortgage-backed securities (private-label MBS or PLMBS) that are supported by underlying mortgage or asset-backed loans. The FHLBanks are prohibited by FHFA regulations from purchasing certain higher-risk securities, such as equity securities and debt instruments that are not investment quality, other than certain investments targeted at low-income persons or communities and instruments that experienced credit deterioration after their purchase by the FHLBanks.

Trading Securities

Table 3.1 - Trading Securities by Major Security Type
(dollars in millions)

Fair Value	June 30, 2020	December 31, 2019
Non-mortgage-backed securities		
U.S. Treasury obligations	$ 58,954	$ 50,478
Other U.S. obligations	122	150
GSE and Tennessee Valley Authority obligations	2,855	2,653
Other	269	268
Total non-mortgage-backed securities	62,200	53,549
Mortgage-backed securities		
U.S. obligations single-family MBS	8	9
GSE single-family MBS	53	60
GSE multifamily MBS	1,249	1,236
Total mortgage-backed securities	1,310	1,305
Total	$ 63,510	$ 54,854

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net unrealized gains (losses) on trading securities held at period-end	$ (184)	$ 280	$ 841	$ 373
Net unrealized and realized gains (losses) on trading securities sold/matured during the period	42	31	64	43
Net gains (losses) on trading securities	$ (142)	$ 311	$ 905	$ 416

Available-for-Sale Securities

Table 3.3 - Available-for-Sale (AFS) Securities by Major Security Type
(dollars in millions)

	June 30, 2020				
	Amortized Cost(1)	Allowance for Credit Losses(2)	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Non-mortgage-backed securities					
U.S. Treasury obligations	$ 9,660	$ —	$ 4	$ (1)	$ 9,663
Other U.S. obligations	3,809	—	82	(18)	3,873
GSE and Tennessee Valley Authority obligations	13,251	—	139	(74)	13,316
State or local housing agency obligations	1,048	—	15	(29)	1,034
Federal Family Education Loan Program ABS	3,063	—	70	(21)	3,112
Other	796	—	5	(20)	781
Total non-mortgage-backed securities	31,627	—	315	(163)	31,779
Mortgage-backed securities					
U.S. obligations single-family MBS	4,886	—	30	(3)	4,913
U.S. obligations multifamily MBS	166	—	1	—	167
GSE single-family MBS	7,014	—	68	(4)	7,078
GSE multifamily MBS	62,260	—	381	(802)	61,839
Private-label MBS	2,401	(31)	201	(35)	2,536
Total mortgage-backed securities	76,727	(31)	681	(844)	76,533
Total	$ 108,354	$ (31)	$ 996	$ (1,007)	$ 108,312

	December 31, 2019									
	Amortized Cost(1)		OTTI Recognized in AOCI(2)		Gross Unrealized Gains(3)		Gross Unrealized Losses(3)		Fair Value	
Non-mortgage-backed securities										
Certificates of deposit	$	1,410	$	—	$	—	$	—	$	1,410
U.S. Treasury obligations		9,539		—		11		—		9,550
Other U.S. obligations		3,234		—		42		(2)		3,274
GSE and Tennessee Valley Authority obligations		12,598		—		199		(36)		12,761
State or local housing agency obligations		1,083		—		10		(10)		1,083
Federal Family Education Loan Program ABS		3,219		—		140		(7)		3,352
Other		750		—		10		(13)		747
Total non-mortgage-backed securities		31,833		—		412		(68)		32,177
Mortgage-backed securities										
U.S. obligations single-family MBS		5,271		—		30		(5)		5,296
U.S. obligations multifamily MBS		284		—		—		(1)		283
GSE single-family MBS		7,654		—		22		(22)		7,654
GSE multifamily MBS		54,863		—		310		(192)		54,981
Private-label MBS		3,274		(10)		378		—		3,642
Total mortgage-backed securities		71,346		(10)		740		(220)		71,856
Total	$	103,179	$	(10)	$	1,152	$	(288)	$	104,033

(1) Includes adjustments made to the cost basis of an investment for accretion, amortization, net charge-offs, and/or fair value hedge accounting adjustments, and excludes accrued interest receivable of $272 million and $296 million at June 30, 2020 and December 31, 2019.

(2) With the adoption of changes to accounting standards on credit impairment on January 1, 2020, the FHLBanks are required to record an allowance for credit losses on AFS securities. Prior to January 1, 2020, credit losses were recorded as a direct write-down to the AFS security's carrying value. (See *Note 1 - Summary of Significant Accounting Policies* and *Note 2 - Recently Issued and Adopted Accounting Guidance* for further information). Excludes subsequent unrealized gains (losses) in fair value of previously other-than-temporarily impaired AFS securities at December 31, 2019, which is included in net non-credit portion of OTTI losses on AFS securities. (See *Note 10 - Accumulated Other Comprehensive Income (Loss)* for further information).

(3) Includes $372 million in subsequent unrealized gains (losses) in fair value of previously other-than-temporarily impaired AFS securities at December 31, 2019. (See *Note 10 - Accumulated Other Comprehensive Income (Loss)* for further information).

Table 3.4 presents the AFS securities with unrealized losses by major security type and length of time that individual securities have been in a continuous unrealized loss position.

Table 3.4 - AFS Securities in a Continuous Unrealized Loss Position
(dollars in millions)

	June 30, 2020											
	Less than 12 Months				12 months or more				Total			
	Fair Value		Unrealized Losses		Fair Value		Unrealized Losses		Fair Value		Unrealized Losses	
Non-mortgage-backed securities												
U.S. Treasury obligations	$	1,665	$	(1)	$	502	$	—	$	2,167	$	(1)
Other U.S. obligations		950		(8)		794		(10)		1,744		(18)
GSE and Tennessee Valley Authority obligations		679		(11)		476		(63)		1,155		(74)
State or local housing agency obligations		349		(22)		345		(7)		694		(29)
Federal Family Education Loan Program ABS		671		(1)		474		(20)		1,145		(21)
Other		—		—		437		(20)		437		(20)
Total non-mortgage-backed securities		4,314		(43)		3,028		(120)		7,342		(163)
Mortgage-backed securities												
U.S. obligations single-family MBS		403		—		744		(3)		1,147		(3)
GSE single-family MBS		1,178		(2)		645		(2)		1,823		(4)
GSE multifamily MBS		32,277		(474)		13,794		(328)		46,071		(802)
Private-label MBS		376		(13)		171		(22)		547		(35)
Total mortgage-backed securities		34,234		(489)		15,354		(355)		49,588		(844)
Total	$	38,548	$	(532)	$	18,382	$	(475)	$	56,930	$	(1,007)

	December 31, 2019(1)					
	Less than 12 Months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Non-mortgage-backed securities						
Other U.S. obligations	$ 239	$ —	$ 709	$ (2)	$ 948	$ (2)
GSE and Tennessee Valley Authority obligations	17	—	571	(36)	588	(36)
State or local housing agency obligations	70	(2)	396	(8)	466	(10)
Federal Family Education Loan Program ABS	512	(7)	—	—	512	(7)
Other	—	—	416	(13)	416	(13)
Total non-mortgage-backed securities	838	(9)	2,092	(59)	2,930	(68)
Mortgage-backed securities						
U.S. obligations single-family MBS	673	(1)	656	(4)	1,329	(5)
U.S. obligations multifamily MBS	—	—	283	(1)	283	(1)
GSE single-family MBS	2,820	(7)	1,749	(15)	4,569	(22)
GSE multifamily MBS	14,675	(72)	12,433	(120)	27,108	(192)
Private-label MBS	93	—	212	(10)	305	(10)
Total mortgage-backed securities	18,261	(80)	15,333	(150)	33,594	(230)
Total	$ 19,099	$ (89)	$ 17,425	$ (209)	$ 36,524	$ (298)

(1) Total unrealized losses in Table 3.4 will not agree to total gross unrealized losses in Table 3.3. Total unrealized losses in Table 3.4 includes non-credit-related OTTI recognized in AOCI.

Table 3.5 - AFS Securities by Contractual Maturity
(dollars in millions)

	June 30, 2020		December 31, 2019	
Year of Maturity	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Non-mortgage-backed securities				
Due in one year or less	$ 8,009	$ 8,014	$ 5,441	$ 5,445
Due after one year through five years	11,146	11,192	14,363	14,439
Due after five years through ten years	6,615	6,677	6,497	6,595
Due after ten years	2,794	2,784	2,313	2,346
Federal Family Education Loan Program ABS(1)	3,063	3,112	3,219	3,352
Total non-mortgage-backed securities	31,627	31,779	31,833	32,177
Mortgage-backed securities(1)	76,727	76,533	71,346	71,856
Total	$ 108,354	$ 108,312	$ 103,179	$ 104,033

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

Table 3.6 - Proceeds from Sale and Gross Gains and Losses on AFS Securities
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Proceeds from sale of AFS securities	$ —	$ 25	$ 1,741	$ 436
Gross gains on sale of AFS securities	$ —	$ 1	$ 83	$ 1
Gross losses on sale of AFS securities	—	—	—	—
Net realized gains (losses) from sale of AFS securities	$ —	$ 1	$ 83	$ 1

Held-to-Maturity Securities

Table 3.7 - HTM Securities by Major Security Type
(dollars in millions)

	June 30, 2020						
	Amortized Cost(1)	Allowance for Credit Losses(2)	OTTI Recognized in AOCI(2)	Net Carrying Value	Gross Unrecognized Holding Gains(3)	Gross Unrecognized Holding Losses(3)	Fair Value
Non-mortgage-backed securities							
U.S. Treasury obligations	$ 35	$ —	$ —	$ 35	$ —	$ —	$ 35
Other U.S. obligations	849	—	—	849	31	—	880
GSE and Tennessee Valley Authority obligations	3,007	—	—	3,007	105	—	3,112
State or local housing agency obligations	1,592	—	—	1,592	3	(34)	1,561
Total non-mortgage-backed securities	5,483	—	—	5,483	139	(34)	5,588
Mortgage-backed securities							
U.S. obligations single-family MBS	5,425	—	—	5,425	80	(9)	5,496
GSE single-family MBS	24,252	—	—	24,252	357	(32)	24,577
GSE multifamily MBS	34,578	—	—	34,578	768	(78)	35,268
Private-label MBS	1,213	(7)	(142)	1,064	261	(21)	1,304
Total mortgage-backed securities	65,468	(7)	(142)	65,319	1,466	(140)	66,645
Total	$ 70,951	$ (7)	$ (142)	$ 70,802	$ 1,605	$ (174)	$ 72,233

	December 31, 2019					
	Amortized Cost(1)	OTTI Recognized in AOCI(2)	Carrying Value	Gross Unrecognized Holding Gains(3)	Gross Unrecognized Holding Losses(3)	Fair Value
Non-mortgage-backed securities						
U.S. Treasury obligations	$ 35	$ —	$ 35	$ —	$ —	$ 35
Other U.S. obligations	1,135	—	1,135	17	(1)	1,151
GSE and Tennessee Valley Authority obligations	4,881	—	4,881	78	—	4,959
State or local housing agency obligations	1,722	—	1,722	2	(34)	1,690
Total non-mortgage-backed securities	7,773	—	7,773	97	(35)	7,835
Mortgage-backed securities						
U.S. obligations single-family MBS	5,821	—	5,821	30	(14)	5,837
U.S. obligations multifamily MBS	1	—	1	—	—	1
GSE single-family MBS	26,609	—	26,609	180	(87)	26,702
GSE multifamily MBS	38,527	—	38,527	263	(99)	38,691
Private-label MBS	1,676	(179)	1,497	391	(8)	1,880
Total mortgage-backed securities	72,634	(179)	72,455	864	(208)	73,111
Total	$ 80,407	$ (179)	$ 80,228	$ 961	$ (243)	$ 80,946

(1) Amortized cost of HTM securities includes adjustments made to the cost basis of an investment for accretion, amortization, and/or net charge-offs and excludes accrued interest receivable of $79 million and $130 million as of June 30, 2020 and December 31, 2019.
(2) With the adoption of changes to accounting standards on credit impairment on January 1, 2020, the OTTI approach was replaced with an allowance for credit losses; however, OTTI remains for those securities that had credit impairment prior to the adoption date. (See *Note 1 - Summary of Significant Accounting Policies* and *Note 2 - Recently Issued and Adopted Accounting Guidance* for further information).
(3) Gross unrecognized holding gains (losses) represent the difference between fair value and net carrying value.

Table 3.8 - HTM Securities by Contractual Maturity
(dollars in millions)

	June 30, 2020			December 31, 2019		
Year of Maturity	Amortized Cost	Net Carrying Value(1)	Fair Value	Amortized Cost	Carrying Value(1)	Fair Value
Non-mortgage-backed securities						
Due in one year or less	$ 913	$ 913	$ 914	$ 1,861	$ 1,861	$ 1,862
Due after one year through five years	1,909	1,909	1,910	3,091	3,091	3,094
Due after five years through ten years	789	789	847	767	767	803
Due after ten years	1,872	1,872	1,917	2,054	2,054	2,076
Total non-mortgage-backed securities	5,483	5,483	5,588	7,773	7,773	7,835
Mortgage-backed securities(2)	65,468	65,319	66,645	72,634	72,455	73,111
Total	$ 70,951	$ 70,802	$ 72,233	$ 80,407	$ 80,228	$ 80,946

(1) The June 30, 2020 and December 31, 2019 carrying values of HTM securities represent amortized cost and include adjustments for non-credit-related losses recognized in AOCI. The June 30, 2020 net carrying value also includes the allowance for credit losses.
(2) MBS are not presented by contractual maturity because their expected maturities will likely differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

Certain FHLBanks sold securities out of their respective HTM portfolio that were near enough to their maturity date (for example, within three months of maturity) that changes in market interest rates would not have a significant effect on the security's fair value or had less than 15% of the acquired principal outstanding at the time of the sale. These sales are considered maturities for purposes of security classification.

Table 3.9 - Proceeds from Sale and Gains and Losses on HTM Securities
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Proceeds from sale of HTM securities	$ —	$ 9	$ 356	$ 9
Carrying value of HTM securities sold	—	9	312	9
Net realized gains (losses) from sale of HTM securities	$ —	$ —	$ 44	$ —

Allowance for Credit Losses on AFS and HTM Securities

The FHLBanks evaluate AFS and HTM securities for credit losses on a quarterly basis. The FHLBanks adopted new accounting guidance for the measurement of credit losses on financial instruments on January 1, 2020. (See *Note 1- Summary of Significant Accounting Policies* and *Note 2 - Recently Issued and Adopted Accounting Guidance* for additional information.)

During the six months ended June 30, 2020, the FHLBanks recognized a provision for credit losses on AFS and HTM securities of $32 million, due primarily to a decline in the fair value of AFS PLMBS securities. During the three months ended June 30, 2020, the FHLBanks recognized a reversal of credit losses on AFS and HTM securities of $9 million. Under the previous accounting methodology for securities impairment, the FHLBanks recognized net OTTI losses of $7 million and $9 million during the three and six months ended June 30, 2019. (See *Note 1 - Summary of Significant Accounting Policies* on pages F-15 to F-16 and *Note 7 - Other-than-Temporary Impairment Analysis* on pages F-30 to F-31 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for information on the prior methodology for evaluating credit losses.)

Table 3.10 presents a rollforward of the allowance for credit losses on debt securities for the three and six months ended June 30, 2020.

Table 3.10 - Allowance for Credit Losses on Debt Securities
(dollars in millions)

	Three Months Ended June 30, 2020		Six Months Ended June 30, 2020	
	AFS	HTM	AFS	HTM
Balance, at beginning of period	$ 42	$ 5	$ —	$ —
Adjustments for cumulative effect of accounting change	—	—	—	6
Provision (reversal) for credit losses	(11)	2	31	1
Charge-offs, net of recoveries	—	—	—	—
Balance, at end of period	$ 31	$ 7	$ 31	$ 7

To evaluate investment securities for credit losses at June 30, 2020, the FHLBanks employed the following methodologies, based on the type of security:

AFS and HTM Securities (Excluding PLMBS)

The FHLBanks' AFS and HTM securities are principally certificates of deposit, U.S. Treasury and other U.S. obligations, GSE and Tennessee Valley Authority obligations, state or local housing agency obligations, and MBS issued by Ginnie Mae, Freddie Mac, and Fannie Mae that are backed by single-family or multifamily mortgage loans. The FHLBanks only purchase securities that are considered investment quality. Excluding PLMBS investments, at June 30, 2020, 99.9% of AFS and HTM securities, based on amortized cost, were rated single-A or above by a nationally recognized statistical rating organization, based on the lowest long-term credit rating for each security used by each individual FHLBank. These may differ from any internal ratings of the securities by an FHLBank, if applicable.

Each FHLBank evaluates its individual AFS securities for impairment by comparing the security's fair value to its amortized cost. Impairment may exist when the fair value of the investment is less than its amortized cost (i.e., in an unrealized loss position). At June 30, 2020, certain of the FHLBanks' AFS securities were in an unrealized loss position. These losses are considered temporary as each FHLBank expects to recover the entire amortized cost basis on these AFS securities and neither intends to sell these securities nor considers it more likely than not that it will be required to sell these securities before its anticipated recovery of each security's remaining amortized cost basis. Furthermore, the FHLBanks have not experienced any payment defaults on these securities at June 30, 2020; and substantially all of these securities carry an implicit or explicit government guarantee. As a result, no allowance for credit losses was recorded on these AFS securities at June 30, 2020.

Each FHLBank evaluates its HTM securities for impairment on a collective or pooled basis unless an individual assessment is deemed necessary because the securities do not possess similar risk characteristics. At June 30, 2020, the FHLBanks had not established an allowance for credit losses on any of their HTM securities because the securities: (1) were all highly-rated and/or had short remaining terms to maturity, (2) had not experienced, nor did the FHLBanks expect, any payment default on these securities, and (3) in the case of U.S. Treasury, GSE, or other agency obligations, carry an implicit or explicit government guarantee such that the FHLBanks consider the risk of nonpayment to be zero.

Private-label MBS

The FHLBanks also hold investments in private-label MBS. No FHLBank has purchased private-label MBS since 2008. Although the FHLBanks invested in private-label MBS that at the date of purchase were substantially all rated triple-A, many of these securities have subsequently experienced significant credit deterioration. As of June 30, 2020, 8.4% of private-label MBS, based on amortized cost, were rated single-A, or above, by a nationally recognized statistical rating organization; and the remaining securities were either rated less than single-A, or were unrated. To determine whether an allowance for credit losses is necessary on these securities, the FHLBanks perform cash flow analyses. For certain private-label MBS where underlying collateral data is not available, alternative procedures as determined by each FHLBank are used to assess these securities for credit loss measurement.

Each FHLBank's evaluation includes estimating the projected cash flows that the FHLBank is likely to collect based on an assessment of available information, including the structure of the applicable security and certain assumptions such as:

- the remaining payment terms for the security;
- prepayment speeds based on underlying loan-level borrower and loan characteristics;
- expected default rates based on underlying loan-level borrower and loan characteristics;
- loss severity on the collateral supporting each FHLBank's security based on underlying loan-level borrower and loan characteristics;
- expected housing price changes; and
- expected interest-rate assumptions.

Each FHLBank performed a cash flow analysis using third-party models to assess whether the entire amortized cost basis of its private-label MBS will be recovered. The projected cash flows are based on a number of assumptions and expectations, and the results of these models can vary significantly with changes in assumptions and expectations. The projected cash flows, determined based on the model approach, reflect a best estimate scenario and include a base case housing price forecast and a base case housing price recovery path. At June 30, 2020, the allowance for credit losses on AFS and HTM PLMBS was $31 million and $7 million.

Note 4 - Advances

The FHLBanks offer a wide range of fixed- and variable-rate advance products with different maturities, interest rates, payment characteristics, and optionality. Fixed-rate advances generally have maturities ranging from one day to 30 years. Variable-rate advances generally have maturities ranging from less than 30 days to 20 years, where the interest rates reset periodically at a fixed spread to the London Interbank Offered Rate (LIBOR), the Secured Overnight Financing Rate (SOFR) or other specified indices, or to consolidated obligation yields.

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

	June 30, 2020		December 31, 2019	
Redemption Term	**Amount(1)**	**Weighted-Average Interest Rate**	**Amount(1)**	**Weighted-Average Interest Rate**
Overdrawn demand and overnight deposit accounts	$ 3	2.05%	$ 6	2.05%
Due in 1 year or less	261,804	0.79%	353,979	1.91%
Due after 1 year through 2 years	89,301	1.57%	105,773	2.18%
Due after 2 years through 3 years	42,380	1.86%	43,257	2.30%
Due after 3 years through 4 years	37,086	1.76%	32,480	2.44%
Due after 4 years through 5 years	39,103	1.48%	34,039	2.12%
Thereafter	77,975	1.61%	69,389	2.16%
Total principal amount	547,652	1.23%	638,923	2.05%
Commitment fees	(1)		(1)	
Discounts on AHP advances	(26)		(27)	
Premiums	34		34	
Discounts	(68)		(52)	
Hedging adjustments	9,662		2,519	
Fair value option valuation adjustments	294		123	
Total	$ 557,547		$ 641,519	

(1) Carrying amounts exclude accrued interest receivable of $516 million and $958 million as of June 30, 2020 and December 31, 2019.

The FHLBanks offer advances to members and housing associates that provide the right, based upon predetermined option exercise dates, to call the advance prior to maturity without incurring prepayment or termination fees (callable advances). The FHLBanks also offer certain floating-rate and/or amortizing advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees (prepayable advances). Other advances may only be prepaid by paying a fee to the FHLBank (prepayment fee) that makes the FHLBank financially indifferent to the prepayment of the advance.

Some advances contain embedded options allowing an FHLBank to offer putable and convertible advances. A member either can sell an embedded option to an FHLBank or can purchase an embedded option from an FHLBank. With a putable advance to a member, an FHLBank effectively purchases a put option from the member that allows that FHLBank to put or extinguish the fixed-rate advance to the member on predetermined exercise dates. Generally, these put options are exercised when interest rates increase relative to contractual rates.

Convertible advances allow an FHLBank to convert an advance from one interest-payment term structure to another. Fixed-rate to variable-rate convertible advances have a defined lockout period after which they convert to the current market rate or another structure. A convertible advance generally carries a lower initial interest rate than a comparable-maturity fixed-rate advance without the conversion feature. Variable- to fixed-rate convertible advances have a defined lockout period during which the interest rates adjust based on a spread to LIBOR, SOFR or other specified indices, or consolidated obligation yields. At the end of the lockout period, these advances may convert to fixed-rate advances. The fixed rates on the converted advances are determined at origination.

Table 4.2 - Advances by Redemption Term or Next Call Date and Next Put or Convert Date
(dollars in millions)

	Redemption Term or Next Call Date(1)		Redemption Term or Next Put or Convert Date	
	June 30, 2020	December 31, 2019	June 30, 2020	December 31, 2019
Overdrawn demand and overnight deposit accounts	$ 3	$ 6	$ 3	$ 6
Due in 1 year or less	322,757	435,307	294,805	377,778
Due after 1 year through 2 years	71,567	71,894	95,262	112,205
Due after 2 years through 3 years	35,462	36,938	44,722	46,336
Due after 3 years through 4 years	24,830	22,338	35,854	31,792
Due after 4 years through 5 years	30,776	23,096	36,590	30,967
Thereafter	62,257	49,344	40,416	39,839
Total principal amount	$ 547,652	$ 638,923	$ 547,652	$ 638,923

(1) Also includes certain floating-rate and/or amortizing advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees.

Table 4.3 - Advances by Current Interest Rate Terms
(dollars in millions)

Redemption Term	June 30, 2020	December 31, 2019
Total fixed-rate	$ 387,537	$ 408,692
Total variable-rate	160,115	230,231
Total principal amount	$ 547,652	$ 638,923

Credit Risk Exposure and Security Terms

The FHLBanks' advances are primarily made to member financial institutions, including commercial banks and insurance companies. Each FHLBank manages its credit exposure to advances through an integrated approach that includes establishing a credit limit for each borrower. This approach includes an ongoing review of each borrower's financial condition, in conjunction with the FHLBank's collateral and lending policies to limit risk of loss, while balancing borrowers' needs for a reliable source of funding.

In addition, each FHLBank lends to eligible borrowers in accordance with federal law and FHFA regulations. Specifically, each FHLBank is required to obtain sufficient collateral to fully secure credit products up to the counterparty's total credit limit. Collateral eligible to secure new or renewed advances includes:

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

Residential mortgage loans are the principal form of collateral for advances. The estimated value of the collateral required to secure each member's credit products is calculated by applying collateral discounts, or haircuts, to the market value or unpaid principal balance of the collateral, as applicable. In addition, community financial institutions are eligible to use expanded statutory collateral provisions for small business, agriculture loans, and community development loans. The FHLBank capital stock owned by each borrower is also pledged as collateral. Collateral arrangements may vary depending upon borrower credit quality, financial condition, and performance; borrowing capacity; and overall credit exposure to the borrower. Each FHLBank can also require additional or substitute collateral to protect its security interest. The FHLBanks also have policies and procedures for validating the reasonableness of their collateral valuations. In addition, collateral verifications and on-site reviews are performed by the FHLBanks based on the risk profile of the borrower. Management of each FHLBank believes that these policies effectively manage that FHLBank's respective credit risk from advances.

An FHLBank either allows a borrower to retain physical possession of the collateral assigned to it, or requires the borrower to specifically assign or place physical possession of the collateral with the FHLBank or its safekeeping agent. Each FHLBank perfects its security interest in all pledged collateral. The FHLBank Act states that any security interest granted to an FHLBank by a borrower will have priority over the claims or rights of any other party, except for claims or rights of a third party that would be entitled to priority under otherwise applicable law and are held by a bona fide purchaser for value or by a secured party holding a prior perfected security interest.

Using a risk-based approach and taking into consideration each borrower's financial strength, the FHLBanks consider the types and level of collateral to be the primary indicator of credit quality on their advances. At June 30, 2020 and December 31, 2019, each FHLBank had rights to collateral on a borrower-by-borrower basis with an estimated value equal to, or greater than, its outstanding advances.

Each FHLBank continues to evaluate and make changes to its collateral guidelines, as necessary, based on current market conditions. At June 30, 2020 and December 31, 2019, none of the FHLBanks had any advances that were past due, on non-accrual status, or considered impaired. In addition, there were no TDRs related to advances at any FHLBank during the three and six months ended June 30, 2020 and 2019.

Based on the collateral held as security, each FHLBank management's credit extension and collateral policies, and repayment history on advances, no allowance for credit losses on advances was recorded at June 30, 2020, and December 31, 2019.

Note 5 - Mortgage Loans

Mortgage Loans Held for Portfolio

Mortgage loans held for portfolio consist of loans obtained through the MPP and MPF Program and are either conventional mortgage loans or government-guaranteed or -insured mortgage loans. Under the MPP and MPF Program, the FHLBanks purchase single-family mortgage loans that are originated or acquired by participating financial institutions. These mortgage loans are credit-enhanced by participating financial institutions or are guaranteed or insured by Federal agencies.

Table 5.1 - Mortgage Loans Held for Portfolio
(dollars in millions)

	June 30, 2020	December 31, 2019
Fixed-rate, long-term single-family mortgage loans	$ 65,127	$ 65,541
Fixed-rate, medium-term(1) single-family mortgage loans	6,493	5,648
Total unpaid principal balance	71,620	71,189
Premiums	1,273	1,293
Discounts	(29)	(33)
Hedging adjustments	89	59
Total mortgage loans held for portfolio(2)	72,953	72,508
Allowance for credit losses on mortgage loans	(41)	(16)
Mortgage loans held for portfolio, net	$ 72,912	$ 72,492

(1) Medium-term is defined as a term of 15 years or less.
(2) Excludes accrued interest receivable of $348 million and $345 million at June 30, 2020 and December 31, 2019.

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

	June 30, 2020	December 31, 2019
Conventional MPF/MPP mortgage loans	$ 68,448	$ 67,887
Government-guaranteed or -insured mortgage loans	3,172	3,302
Total unpaid principal balance	$ 71,620	$ 71,189

Credit Enhancements. An FHLBank's allowance for credit losses considers the credit enhancements associated with conventional mortgage loans under the MPF Program and MPP. Credit enhancements may include primary mortgage insurance, supplemental mortgage insurance, the credit enhancement amount plus any recoverable performance-based credit enhancement fees (for certain MPF loans), and Lender Risk Account (for MPP loans). The credit risk analysis of all conventional loans is performed at the individual master commitment level to determine the credit enhancements available to recover losses on loans under each individual master commitment.

Mortgage Partnership Finance Program. Participating financial institutions are paid a credit enhancement fee for assuming credit risk, and in some instances all or a portion of the credit enhancement fee may be performance-based. An FHLBank records credit enhancement fees paid to the participating financial institutions as a reduction to mortgage interest income. A participating financial institution may obtain supplemental mortgage insurance that it intends to use to cover a portion of its credit loss obligation under a master commitment.

Conventional MPF loans are evaluated for credit enhancement by use of third-party models. Each FHLBank participating in the MPF program (MPF FHLBank) and its participating financial institution share the risk of credit losses on conventional MPF loan products held for portfolio, by structuring potential losses into layers with respect to each master commitment. Credit losses in a master commitment are first absorbed by an FHLBank, up to a specified amount referred to as the First Loss Account. For each master commitment, the FHLBank may withhold a participating financial institution's scheduled performance credit enhancement fee in order to reimburse the FHLBank for a portion of credit losses allocated to the First Loss Account.

The First Loss Account represents the first layer or portion of credit losses that each MPF FHLBank absorbs with respect to its MPF loans after considering the borrower's equity, primary mortgage insurance, and recoverable credit enhancement fees. The participating financial institution is required to cover the next layer of losses up to an agreed-upon credit enhancement obligation amount, which may consist of a direct liability of the participating financial institution to pay credit losses up to a specified amount, a contractual obligation of a participating financial institution to provide supplemental mortgage insurance, or a combination of both. Any remaining unallocated losses are absorbed by the MPF FHLBank.

Unlike conventional MPF products held for portfolio, under the MPF Xtra, MPF Direct, MPF Government, and MPF Government MBS products, participating financial institutions are not required to provide credit enhancement and do not receive credit enhancement fees. Loans sold to the FHLBank of Chicago under the MPF Xtra and MPF Direct products are concurrently sold to third-party investors, and are not recorded on the FHLBank's statement of condition. (See *Note 12 - Commitments and Contingencies* for additional information.)

Mortgage Purchase Program. The conventional mortgage loans under the MPP are supported by a Lender Risk Account, and may also be supported by primary or supplemental mortgage insurance, in addition to the associated property as collateral. The Lender Risk Account is funded by an FHLBank participating in the MPP (MPP FHLBank) either upfront as a portion of the purchase proceeds or through a portion of the net interest remitted monthly by the borrower in an amount sufficient to cover expected losses on the pool of mortgages. The Lender Risk Account is recorded in other liabilities on the Combined Statement of Condition. To the extent available, Lender Risk Account funds are used to offset any losses that occur. Typically after five years, excess funds over required balances are returned to the participating financial institution in accordance with a step-down schedule that is established upon execution of a master commitment contract. The Lender Risk Account is released in accordance with the terms of the master commitment. At June 30, 2020 and December 31, 2019, the amount of the Lender Risk Account remaining to cover future potential losses under the MPP were $447 million and $421 million.

Relief to Borrowers During the COVID-19 Pandemic. The FHLBanks elected to apply Section 4013 of the CARES Act to the FHLBanks' loan modifications that qualify under the CARES Act. As a result, the FHLBanks have elected to suspend TDR accounting for eligible modifications under Section 4013 of the CARES Act. The FHLBanks had none of these modifications outstanding as of June 30, 2020.

The FHLBanks' servicers may grant a forbearance period to borrowers who have requested forbearance based on COVID-19 related difficulties regardless of the status of the loan at the time of the request. There were $1.6 billion in unpaid principal balance (UPB) of conventional mortgage loans in forbearance due to the COVID-19 pandemic at June 30, 2020, which represented 2.3% of the FHLBanks' mortgage loans held for portfolio. (See *Note 1 - Summary of Significant Accounting Policies* for additional information on the CARES Act.)

Payment Status of Mortgage Loans. Payment status is the key credit quality indicator for conventional mortgage loans and allows the FHLBanks to monitor the migration of past due loans. Past due loans are those where the borrower has failed to make timely payments of principal and/or interest in accordance with the terms of the loan. Other delinquency statistics include, non-accrual loans and loans in process of foreclosure. Tables 5.3 and 5.4 present the payment status for conventional mortgage loans and other delinquency statistics for all of the FHLBanks' mortgage loans at June 30, 2020 and December 31, 2019.

Table 5.3 - Credit Quality Indicator for Conventional Mortgage Loans
(dollars in millions)

	June 30, 2020		
	Conventional MPF/MPP		
	Origination Year		
Payment Status at Amortized Cost(1)(2)	**Prior to 2016**	**2016 to 2020**	**Total**
Past due 30-59 days	$ 688	$ 285	$ 973
Past due 60-89 days	697	217	914
Past due 90 days or more	91	117	208
Total past due mortgage loans	1,476	619	2,095
Total current mortgage loans	50,713	16,920	67,633
Total conventional MPF/MPP loans	$ 52,189	$ 17,539	$ 69,728

Payment Status at Recorded Investment(1)	December 31, 2019 Conventional MPF/MPP
Past due 30-59 days	$ 435
Past due 60-89 days	82
Past due 90 days or more	132
Total past due mortgage loans	649
Total current mortgage loans	68,832
Total conventional MPF/MPP loans	$ 69,481

(1) The recorded investment at December 31, 2019 includes accrued interest receivable whereas the amortized cost at June 30, 2020 excludes accrued interest receivable.
(2) There were $1,644 million in UPB of conventional mortgage loans in forbearance as a result of the COVID-19 pandemic, of which $206 million had a current payment status, $590 million were 30 to 59 days past due, $774 million were 60 to 89 days past due, and $74 million were greater than 90 days past due as of June 30, 2020.

Table 5.4 - Other Delinquency Statistics
(dollars in millions)

	June 30, 2020		
Amortized Cost	Conventional MPF/MPP	Government-Guaranteed or -Insured	Total
In process of foreclosure(1)	$ 160	$ 36	$ 196
Serious delinquency rate(2)	0.46%	2.39%	0.55%
Past due 90 days or more and still accruing interest	$ 32	$ 59	$ 91
Loans on non-accrual status(3)	$ 217	$ —	$ 217

	December 31, 2019		
Recorded Investment	Conventional MPF/MPP	Government-Guaranteed or -Insured	Total
In process of foreclosure(1)	$ 44	$ 16	$ 60
Serious delinquency rate(2)	0.19%	1.60%	0.26%
Past due 90 days or more and still accruing interest	$ 26	$ 54	$ 80
Loans on non-accrual status	$ 131	$ —	$ 131

(1) Includes loans where the decision of foreclosure or a similar alternative, such as pursuit of deed-in-lieu, has been reported.
(2) Represents seriously delinquent loans as a percentage of total mortgage loans. Seriously delinquent loans are comprised of all loans past due 90 days or more and loans that are in the process of foreclosure.
(3) As of June 30, 2020, $120 million of these conventional mortgage loans on non-accrual status did not have an associated allowance for credit losses and $76 million in UPB of these conventional mortgage loans were in forbearance due to the COVID-19 pandemic.

Allowance for Credit Losses

See *Note 10 - Allowance for Credit Losses* on pages F-34 to F-39 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for information on the prior methodology for evaluating credit losses, as well as a discussion on classes of financing receivables, the FHLBanks' policies for impairing financing receivables, placing them on non-accrual status, and charging them off when necessary.

Conventional MPF and Conventional MPP Mortgage Loans. Conventional loans are evaluated collectively when similar risk characteristics exists. Conventional loans that do not share risk characteristics with other pools are evaluated for expected credit losses on an individual basis. Each FHLBank determines its allowances for credit losses on conventional loans through analyses that include consideration of various loan portfolio and collateral-related characteristics, such as past performance, current conditions, and reasonable and supportable forecasts of expected economic conditions. The FHLBanks use models that employ a variety of methods, such as projected cash flows, to estimate expected credit losses over the life of the loans. These models rely on a number of inputs, such as both current and forecasted property values and interest rates as well as historical borrower behavior experience. The range of short-term forecasts of housing prices at June 30, 2020 varied, but those FHLBanks not using third-party model inputs were generally forecasting for 1 to 5 years before transitioning to historical trends. Each FHLBank also incorporates associated credit enhancements, if any, to determine its estimate of expected credit losses.

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

Each FHLBank established an allowance for credit losses on its conventional mortgage loans held for portfolio. Table 5.5 presents a rollforward of the allowance for credit losses on mortgage loans for the three and six months ended June 30, 2020 and 2019.

Table 5.5 - Allowance for Credit Losses on Conventional MPF/MPP Mortgage Loans
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Balance, at beginning of period	$ 29	$ 15	$ 16	$ 15
Adjustment for cumulative effect of accounting change	—	—	11	—
Charge-offs, net of recoveries	(3)	1	(4)	—
Provision (reversal) for credit losses	15	—	18	1
Balance, at end of period	$ 41	$ 16	$ 41	$ 16

Government-Guaranteed or -Insured Mortgage Loans. An FHLBank may invest in fixed-rate mortgage loans that are insured or guaranteed by the Federal Housing Administration, the Department of Veterans Affairs, the Rural Housing Service of the Department of Agriculture, and/or the Department of Housing and Urban Development. The servicer provides and maintains insurance or a guarantee from the applicable government agency. The servicer is responsible for compliance with all government agency requirements and for obtaining the benefit of the applicable guarantee or insurance with respect to defaulted government-guaranteed or -insured mortgage loans. Any losses incurred on these loans that are not recovered from the issuer or the guarantor are absorbed by the servicer. Therefore, each FHLBank only has credit risk for these loans if the servicer fails to pay for losses not covered by the guarantee or insurance. Based on each FHLBank's assessment of its servicers and the collateral backing the loans, the risk of loss was immaterial and, consequently, no FHLBank recorded an allowance for credit losses for government-guaranteed or -insured mortgage loans at June 30, 2020 and December 31, 2019. Furthermore, none of these mortgage loans has been placed on non-accrual status because of the U.S. government guarantee or insurance on these loans and the contractual obligation of the loan servicer to repurchase the loans when certain criteria are met.

Note 6 - Derivatives and Hedging Activities

Nature of Business Activity

The FHLBanks are exposed to interest-rate risk primarily from the effect of interest rate changes on their interest-earning assets and their interest-bearing liabilities that finance these assets. The goal of each FHLBank's interest-rate risk management strategy is not to eliminate interest-rate risk, but to manage it within appropriate limits. To mitigate the risk of loss, each FHLBank has established policies and procedures, which include guidelines on the amount of exposure to interest rate changes it is willing to accept. In addition, each FHLBank monitors the risk to its interest income, net interest margin, and average maturity of interest-earning assets and interest-bearing liabilities. (See *Note 11 - Derivatives and Hedging Activities* on pages F-39 to F-48 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for a description of the application of derivatives and the types of derivatives and hedged items.)

Each FHLBank reevaluates its hedging strategies periodically and may change the hedging techniques it uses or may adopt new strategies. Each FHLBank transacts most of its derivatives with large banks and major broker-dealers. Some of these banks and broker-dealers, or their affiliates, buy, sell, and distribute consolidated obligations. Derivative transactions may be either executed with a counterparty, referred to as uncleared derivatives, or cleared through a Futures Commission Merchant (i.e., clearing agent) with a Derivative Clearing Organization, referred to as cleared derivatives. Once a derivative transaction has been accepted for clearing by a Derivative Clearing Organization (Clearinghouse), the executing counterparty is replaced with the Clearinghouse. The FHLBanks are not derivative dealers and do not trade derivatives for short-term profit.

Financial Statement Effect and Additional Financial Information

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

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

Table 6.1 - Fair Value of Derivative Instruments
(dollars in millions)

	June 30, 2020			December 31, 2019		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as hedging instruments						
Interest-rate swaps	$ 389,101	$ 775	$ 6,631	$ 409,519	$ 792	$ 2,196
Derivatives not designated as hedging instruments						
Interest-rate swaps	190,779	297	567	204,262	331	376
Interest-rate swaptions	4,012	23	—	6,995	13	—
Interest-rate caps or floors	12,031	3	1	13,575	3	—
Interest-rate futures or forwards	403	—	1	1,141	2	1
Mortgage delivery commitments	5,712	23	20	2,537	6	1
Other	1,489	34	4	1,259	14	5
Total derivatives not designated as hedging instruments	214,426	380	593	229,769	369	383
Total derivatives before netting and collateral adjustments	$ 603,527	1,155	7,224	$ 639,288	1,161	2,579
Netting adjustments and cash collateral(1)		1,005	(7,073)		570	(2,502)
Total derivative assets and total derivative liabilities		$ 2,160	$ 151		$ 1,731	$ 77

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty. Cash collateral posted and related accrued interest was $7,712 million and $2,946 million at June 30, 2020 and December 31, 2019. Cash collateral received and related accrued interest was $757 million and $347 million at June 30, 2020 and December 31, 2019.

Table 6.2 presents the net gains (losses) on qualifying and discontinued fair value and cash flow hedging relationships.

Table 6.2 - Net Gains (Losses) on Fair Value and Cash Flow Hedging Relationships
(dollars in millions)

	Three Months Ended June 30, 2020				
	Interest Income/Expense				Other Comprehensive Income
	Advances	Available-for-Sale Securities	Consolidated Discount Notes	Consolidated Bonds	
Total interest income (expense) presented on the Combined Statement of Income	$ 1,765	$ 372	$ (652)	$ (1,332)	
Gains (losses) on fair value hedging relationships					
Interest rate contracts					
Derivatives(1)	$ (628)	$ (501)	$ 19	$ 117	
Hedged items(2)	124	234	46	109	
Net gains (losses) on fair value hedging relationships	$ (504)	$ (267)	$ 65	$ 226	
Gains (losses) on cash flow hedging relationships(3)					
Interest rate contracts					
Reclassified from AOCI into interest income (expense)	$ —	$ —	$ (8)	$ (3)	
Recognized in OCI					$ (27)

	Three Months Ended June 30, 2019				
	Interest Income/Expense				Other Comprehensive Income
	Advances	Available-for-Sale Securities	Consolidated Discount Notes	Consolidated Bonds	
Total interest income (expense) presented on the Combined Statement of Income	$ 4,592	$ 659	$ (2,526)	$ (3,821)	
Net fair value hedge ineffectiveness					
Interest rate contracts					
Derivatives(1)	$ (2,078)	$ (1,594)	$ —	$ 696	
Hedged items(2)	2,252	1,564	—	(862)	
Net gains (losses) on fair value hedging relationships	$ 174	$ (30)	$ —	$ (166)	
Gains (losses) on cash flow hedging relationships(3)					
Interest rate contracts					
Reclassified from AOCI into interest income (expense)	$ —	$ —	$ (6)	$ (2)	
Recognized in OCI					$ (123)

	Six Months Ended June 30, 2020				
	Interest Income/Expense				Other Comprehensive Income
	Advances	Available-for-Sale Securities	Consolidated Discount Notes	Consolidated Bonds	
Total interest income (expense) presented on the Combined Statement of Income	$ 4,657	$ 863	$ (2,175)	$ (4,042)	
Gains (losses) on fair value hedging relationships					
Interest rate contracts					
Derivatives(1)	$ (7,741)	$ (5,706)	$ 76	$ 1,355	
Hedged items(2)	7,077	5,248	(6)	(1,046)	
Net gains (losses) on fair value hedging relationships	$ (664)	$ (458)	$ 70	$ 309	
Gains (losses) on cash flow hedging relationships(3)					
Interest rate contracts					
Reclassified from AOCI into interest income (expense)	$ —	$ —	$ (13)	$ (5)	
Recognized in OCI					$ (325)

	Six Months Ended June 30, 2019				
	Interest Income/Expense				Other Comprehensive Income
	Advances	Available-for-Sale Securities	Consolidated Discount Notes	Consolidated Bonds	
Total interest income (expense) presented on the Combined Statement of Income	$ 9,364	$ 1,327	$ (5,087)	$ (7,554)	
Gains (losses) on fair value hedging relationships					
Interest rate contracts					
Derivatives(1)	$ (3,022)	$ (2,533)	$ —	$ 1,204	
Hedged items(2)	3,435	2,490	—	(1,585)	
Net gains (losses) on fair value hedging relationships	$ 413	$ (43)	$ —	$ (381)	
Gains (losses) on cash flow hedging relationships(3)					
Interest rate contracts					
Reclassified from AOCI into interest income (expense)	$ —	$ —	$ (16)	$ (3)	
Recognized in OCI					$ (204)

(1) Includes changes in fair value and net interest settlements and excludes the interest income (expense) of the respective hedged item.
(2) Includes changes in fair value and amortization and accretion of basis adjustments.
(3) Includes changes in fair value, net interest settlements, and amortization and accretion of hedging activities into net interest income. Excludes the interest income (expense) of the respective hedged item.

For the three and six months ended June 30, 2020 and 2019, no material amounts were reclassified from AOCI into earnings as a result of discontinued cash flow hedges because the original forecasted transactions occurred by the end of the originally specified time period or within a two-month period thereafter. At June 30, 2020, $25 million of deferred net losses on derivative instruments in AOCI is expected to be reclassified to earnings during the next twelve months. At June 30, 2020, the maximum length of time over which an FHLBank is hedging its exposure to the variability in future cash flows for forecasted transactions is twelve years, excluding those forecasted transactions related to the payment of variable interest on existing financial instruments.

Table 6.3 presents the cumulative basis adjustments on hedged items designated in fair value hedging relationships and the related amortized cost of the hedged items at June 30, 2020 and December 31, 2019.

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

	June 30, 2020			
Line item in statement of condition of hedged item	**Amortized Cost of Hedged Asset or Liability(1)**	**Basis Adjustments for Active Hedging Relationships Included in Amortized Cost**	**Basis Adjustments for Discontinued Hedging Relationships Included in Amortized Cost**	**Total Amount of Fair Value Hedging Basis Adjustments**
Advances	$ 216,984	$ 9,596	$ 64	$ 9,660
Available-for-sale securities	78,126	7,080	288	7,368
Mortgage loans	617	—	11	11
Consolidated bonds	75,356	1,694	139	1,833
Consolidated discount notes	36,097	6	—	6

	December 31, 2019			
Line item in statement of condition of hedged item	**Amortized Cost of Hedged Asset or Liability(1)**	**Basis Adjustments for Active Hedging Relationships Included in Amortized Cost**	**Basis Adjustments for Discontinued Hedging Relationships Included in Amortized Cost**	**Total Amount of Fair Value Hedging Basis Adjustments**
Advances	$ 182,870	$ 2,481	$ 38	$ 2,519
Available-for-sale securities	68,583	2,118	—	2,118
Mortgage loans	691	—	12	12
Consolidated bonds	142,266	648	133	781
Consolidated discount notes	22,620	—	—	—

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

Table 6.4 presents net gains (losses) related to derivatives and hedging activities recorded in non-interest income.

Table 6.4 - Net Gains (Losses) on Derivatives and Hedging Activities Recorded in Non-interest Income
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
Derivatives not designated as hedging instruments	**2020**	**2019**	**2020**	**2019**
Economic hedges				
Interest-rate swaps	$ 63	$ (379)	$ (1,114)	$ (469)
Interest-rate swaptions	(2)	5	97	(6)
Interest-rate caps or floors	(1)	(2)	—	(6)
Interest-rate futures or forwards	(12)	(10)	(60)	(15)
Net interest settlements	(144)	(2)	(183)	(12)
Other	(3)	—	(11)	—
Mortgage delivery commitments	2	18	47	29
Total net gains (losses) related to derivatives not designated as hedging instruments	(97)	(370)	(1,224)	(479)
Price alignment amount(1)	—	4	6	5
Net gains (losses) on derivatives and hedging activities	$ (97)	$ (366)	$ (1,218)	$ (474)

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

Managing Credit Risk on Derivatives

Each FHLBank is subject to credit risk due to the risk of non-performance by counterparties to its derivative transactions, and manages credit risk through credit analysis, collateral requirements, and adherence to the requirements set forth in its policies, U.S. Commodity Futures Trading Commission regulations, and FHFA regulations.

Uncleared Derivatives. For uncleared derivatives, the degree of credit risk depends on the extent to which master netting arrangements are included in these contracts to mitigate the risk. Each FHLBank requires collateral agreements on its uncleared derivatives. Additionally, collateral related to derivatives with member institutions includes collateral assigned to an FHLBank, as evidenced by a written security agreement and held by the member institution for the benefit of that FHLBank.

Certain of the FHLBanks' uncleared derivative instruments contain provisions that require an FHLBank to post additional collateral with its counterparties if there is deterioration in that FHLBank's credit rating. If an FHLBank's credit rating is lowered by a nationally recognized statistical rating organization, that FHLBank may be required to deliver additional collateral on uncleared derivative instruments in net liability positions, unless the collateral delivery threshold is set to zero. The aggregate fair value of all uncleared derivative instruments with credit-risk-related contingent features that require an FHLBank to deliver additional collateral due to a credit downgrade and were in a net liability position (before cash collateral and related accrued interest) at June 30, 2020, was $2,074 million, for which the FHLBanks have posted collateral with a fair value of $2,049 million in the normal course of business. If each FHLBank's credit rating had been lowered from its current rating to the next lower rating that would have triggered additional collateral to be delivered, the FHLBanks would have been required to deliver an additional $17 million of collateral at fair value to their uncleared derivatives counterparties at June 30, 2020.

Cleared Derivatives. For cleared derivatives, a Derivative Clearing Organization (Clearinghouse) is an FHLBank's counterparty. The Clearinghouse notifies the clearing agent of the required initial and variation margin and the clearing agent in turn notifies the FHLBank. Each FHLBank utilizes one or two Clearinghouses for all cleared derivative transactions, LCH Ltd. and/or CME Clearing. At both Clearinghouses, variation margin is characterized as daily settlement payments and initial margin is considered collateral. The requirement that an FHLBank post initial and variation margin, through the clearing agent to the Clearinghouse, exposes an FHLBank to credit risk if the clearing agent or the Clearinghouse fails to meet its obligations. The use of cleared derivatives is intended to mitigate credit risk exposure because a central counterparty is substituted for individual counterparties and collateral/payments for changes in the fair value of cleared derivatives is posted daily through a clearing agent.

The Clearinghouse determines initial margin requirements and generally credit ratings are not factored into the initial margin. However, clearing agents may require additional initial margin to be posted based on credit considerations, including, but not limited to, credit rating downgrades. None of the FHLBanks were required to post additional initial margin by its clearing agents, based on credit considerations, at June 30, 2020.

Offsetting of Derivative Assets and Derivative Liabilities

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

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

Table 6.5 presents separately the fair value of derivative instruments meeting or not meeting netting requirements, with and without the legal right of offset, including the related collateral.

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

	June 30, 2020						
	Derivative Instruments Meeting Netting Requirements				Non-cash Collateral Not Offset		
	Gross Recognized Amount	Gross Amounts of Netting Adjustments and Cash Collateral	Derivative Instruments Not Meeting Netting Requirements(1)	Total Derivative Assets and Total Derivative Liabilities	Can Be Sold or Repledged	Cannot Be Sold or Repledged	Net Amount(2)
Derivative Assets							
Uncleared	$ 593	$ (438)	$ 23	$ 178	$ —	$ 44	$ 134
Cleared	539	1,443	—	1,982	(521)	—	2,503
Total				$ 2,160			$ 2,637
Derivative Liabilities							
Uncleared	$ 6,744	$ (6,615)	$ 22	$ 151	$ —	$ 23	$ 128
Cleared	458	(458)	—	—	—	—	—
Total				$ 151			$ 128

	December 31, 2019						
	Derivative Instruments Meeting Netting Requirements				Non-cash Collateral Not Offset		
	Gross Recognized Amount	Gross Amounts of Netting Adjustments and Cash Collateral	Derivative Instruments Not Meeting Netting Requirements(1)	Total Derivative Assets and Total Derivative Liabilities	Can Be Sold or Repledged	Cannot Be Sold or Repledged	Net Amount(2)
Derivative Assets							
Uncleared	$ 623	$ (409)	$ 6	$ 220	$ —	$ 125	$ 95
Cleared	532	979	—	1,511	(381)	—	1,892
Total				$ 1,731			$ 1,987
Derivative Liabilities							
Uncleared	$ 2,142	$ (2,078)	$ 1	$ 65	$ —	$ 9	$ 56
Cleared	436	(424)	—	12	—	12	—
Total				$ 77			$ 56

(1) Represents derivatives that are not subject to an enforceable netting agreement (e.g., mortgage delivery commitments and certain interest-rate futures or forwards).
(2) Any overcollateralization at an FHLBank's individual clearing agent and/or counterparty level is not included in the determination of the net amount. At June 30, 2020 and December 31, 2019, the FHLBanks had additional net credit exposure of $2,152 million and $1,515 million due to instances where an FHLBank's non-cash collateral to a counterparty exceeded the FHLBank's net derivative position.

Note 7 - Deposits

The FHLBanks offer demand and overnight deposit programs to members and to qualifying non-members. In addition, certain FHLBanks offer short-term interest-bearing deposit programs to members and, in certain cases, to qualifying non-members. A member that services mortgage loans may deposit in its FHLBank funds collected in connection with the mortgage loans, pending disbursement of these funds to the owners of the mortgage loans. The FHLBanks classify these funds as other deposits. Deposits classified as demand, overnight, or other pay interest based on a daily interest rate. Term deposits pay interest based on a fixed rate determined at the issuance of the deposit.

Table 7.1 - Deposits
(dollars in millions)

	June 30, 2020	December 31, 2019
Interest-bearing		
Demand and overnight	$ 13,979	$ 9,371
Term	301	266
Other	14	11
Total interest-bearing	14,294	9,648
Non-interest-bearing		
Demand and overnight	529	213
Other	970	543
Total non-interest-bearing	1,499	756
Total deposits	$ 15,793	$ 10,404

Note 8 - Consolidated Obligations

Consolidated obligations consist of consolidated bonds and consolidated discount notes, which are joint and several obligations of all FHLBanks. The FHLBanks issue consolidated obligations through the Office of Finance as their agent. In connection with each debt issuance, an FHLBank specifies the amount of debt it wants issued on its behalf. The Office of Finance tracks the amount of debt issued on behalf of each FHLBank. In addition, each FHLBank records as a liability its specific portion of consolidated obligations for which it is the primary obligor.

The FHFA and the Secretary of the Treasury oversee the issuance of FHLBank debt through the Office of Finance. Consolidated bonds may be issued to raise short-, intermediate-, or long-term funds for the FHLBanks and are not subject to any statutory or regulatory limits on their maturity. Consolidated discount notes are issued primarily to raise short-term funds and have original maturities of up to one year. These notes generally sell below their face value and are redeemed at face value when they mature.

Although each FHLBank is primarily liable for its portion of consolidated obligations, each FHLBank is also jointly and severally liable with the other FHLBanks for the payment of principal and interest on all consolidated obligations of the FHLBanks. The principal amount of the FHLBanks' outstanding consolidated obligations, including consolidated obligations held by other FHLBanks, was $915.8 billion and $1,025.9 billion at June 30, 2020 and December 31, 2019.

Table 8.1 - Consolidated Discount Notes Outstanding
(dollars in millions)

	Book Value	Principal Amount	Weighted-Average Interest Rate(1)
June 30, 2020	$ 391,471	$ 391,677	0.33%
December 31, 2019	$ 404,035	$ 404,953	1.60%

(1) Represents yield to maturity excluding concession fees.

Table 8.2 - Consolidated Bonds Outstanding by Contractual Maturity
(dollars in millions)

	June 30, 2020		December 31, 2019	
Year of Contractual Maturity	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
Due in 1 year or less	$ 354,712	0.48%	$ 410,476	1.77%
Due after 1 year through 2 years	66,826	1.31%	92,588	1.90%
Due after 2 years through 3 years	26,861	2.14%	29,935	2.27%
Due after 3 years through 4 years	14,296	2.45%	18,287	2.49%
Due after 4 years through 5 years	19,258	2.02%	22,786	2.41%
Thereafter	42,008	2.79%	46,758	3.02%
Total principal amount	523,961	0.96%	620,830	1.95%
Net premiums	549		434	
Hedging adjustments	1,833		781	
Fair value option valuation adjustments	51		116	
Total	$ 526,394		$ 622,161	

Consolidated bonds outstanding were issued with either fixed-rate coupon payment terms or variable-rate coupon payment terms that are indexed to SOFR, LIBOR, or other specified indices. To meet the specific needs of certain investors in consolidated obligations, both fixed-rate consolidated bonds and variable-rate consolidated bonds may contain features that result in complex coupon payment terms and call options. When these consolidated bonds are issued, an FHLBank may enter into derivatives containing features that offset the terms and embedded options, if any, of the consolidated bond obligations.

Table 8.3 - Consolidated Bonds Outstanding by Call Features
(dollars in millions)

Principal Amount of Consolidated Bonds	June 30, 2020	December 31, 2019
Non-callable/non-putable	$ 478,252	$ 526,854
Callable	45,709	93,976
Total principal amount	$ 523,961	$ 620,830

Table 8.4 - Consolidated Bonds Outstanding by Contractual Maturity or Next Call Date
(dollars in millions)

Year of Contractual Maturity or Next Call Date	June 30, 2020	December 31, 2019
Due in 1 year or less	$ 390,842	$ 473,631
Due after 1 year through 2 years	69,380	83,110
Due after 2 years through 3 years	23,188	22,035
Due after 3 years through 4 years	11,507	13,407
Due after 4 years through 5 years	11,387	10,562
Thereafter	17,657	18,085
Total principal amount	$ 523,961	$ 620,830

Note 9 - Capital

Each FHLBank is subject to three capital requirements under its capital plan and the FHFA rules and regulations. Regulatory capital does not include AOCI, but does include mandatorily redeemable capital stock.

1. *Risk-based capital.* Each FHLBank must maintain at all times permanent capital, defined as Class B stock and retained earnings, in an amount at least equal to the sum of its credit risk, market risk, and operations risk capital requirements, all of which are calculated in accordance with the rules and regulations of the FHFA.

2. *Total regulatory capital.* Each FHLBank must maintain at all times a total capital-to-assets ratio of at least four percent. Total regulatory capital is the sum of permanent capital, Class A stock, any general loss allowance, if consistent with GAAP and not established for specific assets, and other amounts from sources determined by the FHFA as available to absorb losses.

3. *Leverage capital.* Each FHLBank must maintain at all times a leverage capital-to-assets ratio of at least five percent. Leverage capital is defined as the sum of permanent capital weighted 1.5 times and all other capital without a weighting factor.

The FHFA may require an FHLBank to maintain greater minimum capital levels than are required based on FHFA rules and regulation. At June 30, 2020, each FHLBank was in compliance with FHFA regulatory capital requirements.

Table 9.1 - Risk-Based Capital Requirements at June 30, 2020
(dollars in millions)

	Risk-Based Capital	
FHLBank	Minimum Requirement	Actual
Boston	$ 432	$ 2,980
New York	1,062	8,222
Pittsburgh	561	4,009
Atlanta	1,778	5,881
Cincinnati	500	5,079
Indianapolis	608	3,622
Chicago	1,380	5,999
Des Moines	674	6,139
Dallas	1,038	3,820
Topeka	348	1,889
San Francisco	1,390	6,245

Table 9.2 - Regulatory Capital Requirements at June 30, 2020
(dollars in millions)

	Regulatory Capital Ratio		Regulatory Capital	
FHLBank	Minimum Requirement	Actual	Minimum Requirement	Actual
Boston	4.0%	6.5%	$ 1,846	$ 2,980
New York	4.0%	5.2%	6,355	8,222
Pittsburgh	4.0%	5.1%	3,119	4,009
Atlanta	4.0%	4.7%	5,064	5,881
Cincinnati	4.0%	5.6%	3,626	5,079
Indianapolis	4.0%	5.1%	2,843	3,622
Chicago	4.0%	6.2%	3,869	5,999
Des Moines	4.0%	6.0%	4,099	6,139
Dallas	4.0%	5.1%	2,998	3,820
Topeka	4.0%	4.5%	2,141	2,391
San Francisco	4.0%	6.7%	3,738	6,245

Table 9.3 - Leverage Capital Requirements at June 30, 2020
(dollars in millions)

	Leverage Capital Ratio		Leverage Capital	
FHLBank	Minimum Requirement	Actual	Minimum Requirement	Actual
Boston	5.0%	9.7%	$ 2,308	$ 4,470
New York	5.0%	7.8%	7,944	12,334
Pittsburgh	5.0%	7.7%	3,899	6,013
Atlanta	5.0%	7.0%	6,330	8,822
Cincinnati	5.0%	8.4%	4,532	7,619
Indianapolis	5.0%	7.7%	3,554	5,433
Chicago	5.0%	9.3%	4,837	8,997
Des Moines	5.0%	9.0%	5,124	9,209
Dallas	5.0%	7.6%	3,748	5,730
Topeka	5.0%	6.2%	2,677	3,335
San Francisco	5.0%	10.0%	4,672	9,368

Each FHLBank is a cooperative whose member financial institutions own most of the FHLBank's capital stock. Former members (including certain non-members that own FHLBank capital stock as a result of merger or acquisition, relocation, charter termination, voluntary termination, or involuntary termination of an FHLBank member) own the remaining capital stock to support business transactions still carried on an FHLBank's statement of condition. Shares of capital stock cannot be purchased or sold except between an FHLBank and its members at its $100 per share par value, as mandated by each FHLBank's capital plan. Members can redeem Class A stock by giving six-months written notice, and members can redeem Class B stock by giving five-years written notice, subject to certain restrictions. An FHLBank's board of directors may declare and pay dividends in either cash or capital stock, assuming the FHLBank is in compliance with FHFA rules.

Partial Recovery of Prior Capital Distribution to Financing Corporation

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

In connection with the dissolution of FICO in July 2020, FICO determined that excess funds aggregating to $200 million were available for distribution to its stockholders, the FHLBanks, and FICO distributed these funds to the FHLBanks in June 2020. The FHLBanks treated the receipt of these funds as a return of the FHLBanks' investment in FICO capital stock, and therefore as a partial recovery of the prior capital distributions made by the FHLBanks to FICO in 1987, 1988, and 1989. These funds have been credited to unrestricted retained earnings.

Restricted Retained Earnings

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

Mandatorily Redeemable Capital Stock

An FHLBank generally reclassifies capital stock subject to redemption from capital to the mandatorily redeemable capital stock liability upon expiration of a grace period, if applicable, after a member exercises a written redemption right, or gives notice of intent to withdraw from membership, or attains non-member status by merger or acquisition, relocation, charter termination, or involuntary termination from membership. Shares of capital stock meeting these definitions are reclassified to mandatorily redeemable capital stock at fair value. Dividends related to capital stock classified as mandatorily redeemable capital stock are accrued at the expected dividend rate and reported as interest expense on the Combined Statement of Income. For the three months ended June 30, 2020 and 2019, dividends on mandatorily redeemable capital stock of $14 million and $17 million were recorded as interest expense. For the six months ended June 30, 2020 and 2019, dividends on mandatorily redeemable capital stock of $32 million and $33 million were recorded as interest expense.

A member may cancel or revoke its written notice of redemption or its notice of withdrawal from membership prior to the end of the applicable redemption period. Each FHLBank's capital plan provides the terms for cancellation fees that may be incurred by the member upon cancellation.

Table 9.4 presents capital stock subject to mandatory redemption. Payment is contingent on, among other things, each FHLBank's waiting period and the FHLBank's ability to meet its minimum regulatory capital requirements. These amounts have been classified as a liability on the Combined Statement of Condition.

Table 9.4 - Mandatorily Redeemable Capital Stock Rollforward
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Balance, beginning of period	$ 1,726	$ 1,035	$ 1,378	$ 1,062
Capital stock subject to mandatory redemption reclassified from capital	782	387	1,550	444
Redemption/repurchase of mandatorily redeemable capital stock	(1,412)	(185)	(1,835)	(271)
Other(1)	1	—	4	2
Balance, end of period	$ 1,097	$ 1,237	$ 1,097	$ 1,237

(1) Represents a direct purchase of mandatorily redeemable capital stock by a member and rounding adjustments.

Table 9.5 presents the amount of mandatorily redeemable capital stock by contractual year of redemption. The year of redemption in the table is the end of the appropriate redemption period applicable to each FHLBank's capital plan. An FHLBank is not required to redeem membership stock until either five years or six months, depending on the type of capital stock issuable under its capital plan, after the membership is terminated or the FHLBank receives notice of withdrawal. However, for certain membership terminations such as mergers, consolidations, terminations related to insolvency, or out-of-district relocations, the FHLBank may recalculate the former member's stock requirement following that termination and the stock may be deemed excess stock subject to repurchase at the FHLBank's discretion. An FHLBank is not required to redeem activity-based stock until the later of the expiration of the notice of redemption or until the activity to which the capital stock relates no longer remains outstanding. If activity-based stock becomes excess stock as a result of an activity no longer remaining outstanding, an FHLBank may repurchase those shares, at its sole discretion, subject to the statutory and regulatory restrictions on excess capital stock redemption.

Table 9.5 - Mandatorily Redeemable Capital Stock by Contractual Year of Redemption
(dollars in millions)

	June 30, 2020	December 31, 2019
Year 1	$ 91	$ 140
Year 2	28	18
Year 3	29	18
Year 4	322	63
Year 5	166	481
Thereafter(1)	423	618
Past contractual redemption date due to remaining activity(2)	38	40
Total	$ 1,097	$ 1,378

(1) Represents mandatorily redeemable capital stock resulting from an FHFA rule effective February 19, 2016, that made captive insurance companies ineligible for FHLBank membership. Captive insurance company members that were admitted as FHLBank members prior to September 12, 2014, will have their memberships terminated no later than February 19, 2021. The related mandatorily redeemable capital stock is not required to be redeemed until five years after the member's termination.
(2) Represents mandatorily redeemable capital stock that is past the end of the contractual redemption period because there is activity outstanding to which the mandatorily redeemable capital stock relates.

Excess Capital Stock

Excess capital stock is defined as the amount of stock held by a member (or former member) in excess of that institution's minimum stock ownership requirement. FHFA rules limit the ability of an FHLBank to create member excess capital stock under certain circumstances. An FHLBank may not pay dividends in the form of capital stock or issue new excess capital stock to members if that FHLBank's excess capital stock exceeds one percent of its total assets or if the issuance of excess capital stock would cause that FHLBank's excess capital stock to exceed one percent of its total assets. At June 30, 2020, the FHLBanks of Cincinnati and Indianapolis had excess capital stock outstanding totaling more than one percent of its total assets.

Capital Classification Determination

The FHFA determines each FHLBank's capital classification on at least a quarterly basis. If an FHLBank is determined to be other than adequately capitalized, that FHLBank becomes subject to additional supervisory authority by the FHFA. Before implementing a reclassification, the Director of the FHFA is required to provide that FHLBank with written notice of the proposed action and an opportunity to submit a response. Each FHLBank was classified by the FHFA as adequately capitalized as of the date of the FHFA's most recent notification to each FHLBank.

Note 10 - Accumulated Other Comprehensive Income (Loss)

Table 10.1 presents a summary of changes in accumulated other comprehensive income (loss) for the three and six months ended June 30, 2020 and 2019.

Table 10.1 - Accumulated Other Comprehensive Income (Loss)
(dollars in millions)

	Three Months Ended June 30,					
	Net Unrealized Gains (Losses) on AFS Securities (Note 3)	Net Non-Credit Portion of OTTI Gains (Losses) on AFS Securities (Note 3)	Net Non-Credit Portion of OTTI Gains (Losses) on HTM Securities (Note 3)	Net Unrealized Gains (Losses) Relating to Hedging Activities (Note 6)	Pension and Postretirement Benefits	Total Accumulated Other Comprehensive Income (Loss)
Balance, March 31, 2019	$ 548	$ 430	$ (254)	$ (95)	$ (102)	$ 527
Other comprehensive income before reclassifications						
Unrealized gains (losses)	18	(8)	—	(136)	—	(126)
Reclassification of realized net (gains) losses included in net income	(1)	—	—	—	—	(1)
Non-credit OTTI losses	—	(1)	—	—	—	(1)
Change in fair value of other-than-temporarily impaired securities	—	(4)	—	—	—	(4)
Accretion of non-credit loss	—	—	16	—	—	16
Reclassifications from accumulated other comprehensive income (loss) to net income						
Non-credit OTTI to credit OTTI	—	5	—	—	—	5
Amortization on hedging activities	—	—	—	8	—	8
Amortization - pension and postretirement	—	—	—	—	(1)	(1)
Net current period other comprehensive income (loss)	17	(8)	16	(128)	(1)	(104)
Balance, June 30, 2019	$ 565	$ 422	$ (238)	$ (223)	$ (103)	$ 423
Balance, March 31, 2020	$ (1,064)	$ —	$ (150)	$ (490)	$ (138)	$ (1,842)
Other comprehensive income before reclassifications						
Unrealized gains (losses)	1,053	—	—	(27)	—	1,026
Accretion of non-credit loss	—	—	8	—	—	8
Reclassifications from accumulated other comprehensive income (loss) to net income						
Amortization on hedging activities	—	—	—	11	—	11
Amortization - pension and postretirement	—	—	—	—	2	2
Net current period other comprehensive income (loss)	1,053	—	8	(16)	2	1,047
Balance, June 30, 2020	$ (11)	$ —	$ (142)	$ (506)	$ (136)	$ (795)

	Six Months Ended June 30,					
	Net Unrealized Gains (Losses) on AFS Securities (Note 3)	Net Non-Credit Portion of OTTI Gains (Losses) on AFS Securities (Note 3)	Net Non-Credit Portion of OTTI Gains (Losses) on HTM Securities (Note 3)	Net Unrealized Gains (Losses) Relating to Hedging Activities (Note 6)	Pension and Postretirement Benefits	Total Accumulated Other Comprehensive Income (Loss)
Balance, December 31, 2018	$ 318	$ 425	$ (268)	$ (25)	$ (108)	$ 342
Other comprehensive income before reclassifications						
Unrealized gains (losses)	248	(8)	—	(217)	—	23
Reclassification of realized net (gains) losses included in net income	(1)	—	—	—	—	(1)
Non-credit OTTI losses	—	(2)	—	—	—	(2)
Change in fair value of other-than-temporarily impaired securities	—	1	—	—	—	1
Accretion of non-credit loss	—	—	30	—	—	30
Reclassifications from accumulated other comprehensive income (loss) to net income						
Non-credit OTTI to credit OTTI	—	6	—	—	—	6
Amortization on hedging activities	—	—	—	19	—	19
Amortization - pension and postretirement	—	—	—	—	5	5
Net current period other comprehensive income (loss)	247	(3)	30	(198)	5	81
Balance, June 30, 2019	$ 565	$ 422	$ (238)	$ (223)	$ (103)	$ 423
Balance, December 31, 2019	$ 492	$ 362	$ (179)	$ (199)	$ (132)	$ 344
Other comprehensive income before reclassifications						
Unrealized gains (losses)	(782)	—	—	(325)	—	(1,107)
Non-credit losses included in basis of securities sold	—	—	20	—	—	20
Accretion of non-credit loss	—	—	17	—	—	17
Reclassifications from accumulated other comprehensive income (loss) to net income						
Reclassification of realized net (gains) losses included in net income	(83)	—	—	—	—	(83)
Amortization on hedging activities	—	—	—	18	—	18
Amortization - pension and postretirement	—	—	—	—	(4)	(4)
Net current period other comprehensive income (loss)	(865)	—	37	(307)	(4)	(1,139)
Adjustment for the Adoption of ASU 2016-13, as amended(1)	362	(362)	—	—	—	—
Balance, June 30, 2020	$ (11)	$ —	$ (142)	$ (506)	$ (136)	$ (795)

(1) With the adoption of changes to accounting standards on measurement of credit losses for financial instruments on January 1, 2020, OTTI assessment was replaced with an allowance for credit losses. (See *Note 1 - Summary of Significant Accounting Policies* and *Note 2 - Recently Issued and Adopted Accounting Guidance* for further information.)

Note 11 - Fair Value

The fair value amounts recorded on the Combined Statement of Condition and presented in the note disclosures for the periods presented have been determined by the FHLBanks using available market and other pertinent information and reflect each FHLBank's best judgment of appropriate valuation methods. GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., an exit price). Although each FHLBank uses its best judgment in estimating the fair value of its financial instruments, there are inherent limitations in any valuation technique. Therefore, the fair values may not be indicative of the amounts that would have been realized in market transactions at June 30, 2020 and December 31, 2019. Additionally, these values do not represent an estimate of the overall market value of the FHLBanks as going concerns, which would take into account future business opportunities and the net profitability of assets and liabilities.

Fair Value Hierarchy

GAAP establishes a fair value hierarchy and requires an entity to maximize the use of significant observable inputs and minimize the use of significant unobservable inputs when measuring fair value. The inputs are evaluated and an overall level for the fair value measurement is determined. This overall level is an indication of market observability of the fair value measurement for the asset or liability. An entity must disclose the level within the fair value hierarchy in which the measurements are classified.

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

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

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

- Level 3 Inputs. Unobservable inputs for the asset or liability.

Each FHLBank reviews its fair value hierarchy classifications on a quarterly basis. Changes in the observability of the valuation inputs may result in a reclassification of certain assets or liabilities. The FHLBanks had no transfers of assets or liabilities into or out of Level 3 of the fair value hierarchy during the three and six months ended June 30, 2020 and 2019.

Table 11.1 presents the net carrying value/carrying value, fair value, and fair value hierarchy of financial assets and liabilities of the FHLBanks at June 30, 2020 and December 31, 2019. The FHLBanks record trading securities, AFS securities, derivative assets, derivative liabilities, certain advances, certain consolidated obligations, and certain other assets at fair value on a recurring basis, and on occasion certain private-label MBS, certain mortgage loans held for portfolio, and certain other assets at fair value on a non-recurring basis. The FHLBanks record all other financial assets and liabilities at amortized cost. Refer to Table 11.2 for further details about the financial assets and liabilities held at fair value on either a recurring or non-recurring basis.

Table 11.1 - Fair Value Summary
(dollars in millions)

	June 30, 2020					
		Fair Value				
Financial Instruments	Net Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Assets						
Cash and due from banks	$ 5,807	$ 5,807	$ 5,807	$ —	$ —	$ —
Interest-bearing deposits	13,255	13,255	6,761	6,494	—	—
Securities purchased under agreements to resell	41,514	41,514	—	41,514	—	—
Federal funds sold	53,654	53,654	—	53,654	—	—
Trading securities	63,510	63,510	12,922	50,588	—	—
Available-for-sale securities	108,312	108,312	—	105,716	2,596	—
Held-to-maturity securities	70,802	72,233	—	69,693	2,540	—
Advances(2)	557,547	559,513	—	559,513	—	—
Mortgage loans held for portfolio	72,912	75,759	—	75,625	134	—
Mortgage loans held for sale(3)	130	130	—	130	—	—
Accrued interest receivable	1,426	1,426	—	1,426	—	—
Derivative assets, net	2,160	2,160	—	1,155	—	1,005
Other assets	303	306	250	56	—	—
Liabilities						
Deposits	15,793	15,793	—	15,793	—	—
Consolidated obligations						
Discount notes(4)	391,471	391,568	—	391,568	—	—
Bonds(5)	526,394	532,489	—	532,489	—	—
Total consolidated obligations	917,865	924,057	—	924,057	—	—
Mandatorily redeemable capital stock	1,097	1,101	1,101	—	—	—
Accrued interest payable	1,063	1,058	—	1,058	—	—
Derivative liabilities, net	151	151	—	7,224	—	(7,073)
Other liabilities	70	73	35	38	—	—

Financial Instruments	December 31, 2019 Carrying Value	Fair Value Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Assets						
Cash and due from banks	$ 4,960	$ 4,960	$ 4,960	$ —	$ —	$ —
Interest-bearing deposits	14,429	14,429	7,484	6,945	—	—
Securities purchased under agreements to resell	70,094	70,094	—	70,094	—	—
Federal funds sold	51,357	51,357	—	51,357	—	—
Trading securities	54,854	54,854	15,316	39,538	—	—
Available-for-sale securities	104,033	104,033	—	100,326	3,707	—
Held-to-maturity securities	80,228	80,946	—	77,802	3,144	—
Advances(2)	641,519	642,430	—	642,430	—	—
Mortgage loans held for portfolio	72,492	73,971	—	73,868	103	—
Mortgage loans held for sale(3)	83	83	—	83	—	—
Accrued interest receivable	1,971	1,971	—	1,971	—	—
Derivative assets, net	1,731	1,731	2	1,159	—	570
Other assets	303	303	250	53	—	—
Liabilities						
Deposits	10,404	10,404	—	10,404	—	—
Consolidated obligations						
Discount notes(4)	404,035	404,049	—	404,049	—	—
Bonds(5)	622,161	624,671	—	624,671	—	—
Total consolidated obligations	1,026,196	1,028,720	—	1,028,720	—	—
Mandatorily redeemable capital stock	1,378	1,384	1,384	—	—	—
Accrued interest payable	1,791	1,784	—	1,784	—	—
Derivative liabilities, net	77	77	—	2,579	—	(2,502)
Other liabilities	80	80	45	35	—	—

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty.
(2) Includes $5,364 million and $7,183 million of advances recorded under fair value option at June 30, 2020 and December 31, 2019.
(3) Represents mortgage loans held for sale recorded under fair value option, included in other assets, net on the Combined Statement of Condition.
(4) Includes $32,308 million and $32,539 million of consolidated discount notes recorded under fair value option at June 30, 2020 and December 31, 2019.
(5) Includes $5,949 million and $25,212 million of consolidated bonds recorded under fair value option at June 30, 2020 and December 31, 2019.

Summary of Valuation Methodologies and Primary Inputs

A description of the valuation methodologies and primary inputs is disclosed in Note 18 - Fair Value, pages F-62 to F-64, of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019. There were no significant changes in these valuation methodologies and primary inputs during the six months ended June 30, 2020.

Fair Value Measurements

Table 11.2 presents the fair value of assets and liabilities that are recorded on a recurring or non-recurring basis at June 30, 2020 and December 31, 2019, by level within the fair value hierarchy. The FHLBanks measure certain HTM securities and mortgage loans at fair value on a non-recurring basis due to the recognition of a credit loss. Real estate owned is measured using fair value when the asset's fair value less costs to sell is lower than its carrying amount.

Table 11.2 - Fair Value Measurements
(dollars in millions)

	June 30, 2020				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Recurring fair value measurements - Assets					
Trading securities					
U.S. Treasury obligations	$ 58,954	$ 12,922	$ 46,032	$ —	$ —
Other U.S. obligations	122	—	122	—	—
GSE and Tennessee Valley Authority obligations	2,855	—	2,855	—	—
Other non-MBS	269	—	269	—	—
U.S. obligations single-family MBS	8	—	8	—	—
GSE single-family MBS	53	—	53	—	—
GSE multifamily MBS	1,249	—	1,249	—	—
Total trading securities	63,510	12,922	50,588	—	—
Available-for-sale securities					
U.S. Treasury obligations	9,663	—	9,663	—	—
Other U.S. obligations	3,873	—	3,873	—	—
GSE and Tennessee Valley Authority obligations	13,316	—	13,316	—	—
State or local housing agency obligations	1,034	—	974	60	—
Federal Family Education Loan Program ABS	3,112	—	3,112	—	—
Other non-MBS	781	—	781	—	—
U.S. obligations single-family MBS	4,913	—	4,913	—	—
U.S. obligations multifamily MBS	167	—	167	—	—
GSE single-family MBS	7,078	—	7,078	—	—
GSE multifamily MBS	61,839	—	61,839	—	—
Private-label MBS	2,536	—	—	2,536	—
Total available-for-sale securities	108,312	—	105,716	2,596	—
Advances(2)	5,364	—	5,364	—	—
Mortgage loans held for sale(2)	130	—	130	—	—
Derivative assets, net					
Interest-rate related	2,137	—	1,132	—	1,005
Mortgage delivery commitments	23	—	23	—	—
Total derivative assets, net	2,160	—	1,155	—	1,005
Other assets	268	250	18	—	—
Total recurring assets at fair value	$ 179,744	$ 13,172	$ 162,971	$ 2,596	$ 1,005
Recurring fair value measurements - Liabilities					
Consolidated Obligations					
Discount notes(2)	$ 32,308	$ —	$ 32,308	$ —	$ —
Bonds(2)	5,949	—	5,949	—	—
Total consolidated obligations	38,257	—	38,257	—	—
Derivative liabilities, net					
Interest-rate related	131	—	7,204	—	(7,073)
Mortgage delivery commitments	20	—	20	—	—
Total derivative liabilities, net	151	—	7,224	—	(7,073)
Total recurring liabilities at fair value	$ 38,408	$ —	$ 45,481	$ —	$ (7,073)
Non-recurring fair value measurements - Assets(3)					
Mortgage loans held for portfolio	$ 45	$ —	$ —	$ 45	
Real estate owned	1	—	—	1	
Total non-recurring assets at fair value	$ 46	$ —	$ —	$ 46	

	December 31, 2019				
	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral(1)
Recurring fair value measurements - Assets					
Trading securities					
U.S. Treasury obligations	$ 50,478	$ 15,316	$ 35,162	$ —	$ —
Other U.S. obligations	150	—	150	—	—
GSE and Tennessee Valley Authority obligations	2,653	—	2,653	—	—
Other non-MBS	268	—	268	—	—
U.S. obligations single-family MBS	9	—	9	—	—
GSE single-family MBS	60	—	60	—	—
GSE multifamily MBS	1,236	—	1,236	—	—
Total trading securities	54,854	15,316	39,538	—	—
Available-for-sale securities					
Certificates of deposit	1,410	—	1,410	—	—
U.S. Treasury obligations	9,550	—	9,550	—	—
Other U.S. obligations	3,274	—	3,274	—	—
GSE and Tennessee Valley Authority obligations	12,761	—	12,761	—	—
State or local housing agency obligations	1,083	—	1,018	65	—
Federal Family Education Loan Program ABS	3,352	—	3,352	—	—
Other non-MBS	747	—	747	—	—
U.S. obligations single-family MBS	5,296	—	5,296	—	—
U.S. obligations multifamily MBS	283	—	283	—	—
GSE single-family MBS	7,654	—	7,654	—	—
GSE multifamily MBS	54,981	—	54,981	—	—
Private-label MBS	3,642	—	—	3,642	—
Total available-for-sale securities	104,033	—	100,326	3,707	—
Advances(2)	7,183	—	7,183	—	—
Mortgage loans held for sale(2)	83	—	83	—	—
Derivative assets, net					
Interest-rate related	1,725	2	1,153	—	570
Mortgage delivery commitments	6	—	6	—	—
Total derivative assets, net	1,731	2	1,159	—	570
Other assets	268	250	18	—	—
Total recurring assets at fair value	$ 168,152	$ 15,568	$ 148,307	$ 3,707	$ 570
Recurring fair value measurements - Liabilities					
Consolidated Obligations					
Discount notes(2)	$ 32,539	$ —	$ 32,539	$ —	$ —
Bonds(2)	25,212	—	25,212	—	—
Total consolidated obligations	57,751	—	57,751	—	—
Derivative liabilities, net					
Interest-rate related	76	—	2,578	—	(2,502)
Mortgage delivery commitments	1	—	1	—	—
Total derivative liabilities, net	77	—	2,579	—	(2,502)
Total recurring liabilities at fair value	$ 57,828	$ —	$ 60,330	$ —	$ (2,502)
Non-recurring fair value measurements - Assets(3)					
Held-to-maturity securities					
Private-label MBS	$ 7	$ —	$ —	$ 7	
Mortgage loans held for portfolio	21	—	—	21	
Real estate owned	4	—	—	4	
Total non-recurring assets at fair value	$ 32	$ —	$ —	$ 32	

(1) Amounts represent the application of the netting requirements that allow an FHLBank to settle positive and negative positions, and also cash collateral and related accrued interest held or placed by that FHLBank with the same clearing agent and/or counterparty.
(2) Represents financial instruments recorded under fair value option at June 30, 2020 and December 31, 2019.
(3) The fair value information presented is as of the date the fair value adjustment was recorded during the period.

Level 3 Disclosures for All Assets and Liabilities that are Measured at Fair Value on a Recurring Basis

Table 11.3 presents a rollforward of assets and liabilities measured at fair value on a recurring basis and classified as Level 3 during the three and six months ended June 30, 2020 and 2019.

Table 11.3 - Rollforward of Level 3 Assets and Liabilities
(dollars in millions)

	Three Months Ended June 30, 2020		Three Months Ended June 30, 2019	
	State and Local Housing Agency Obligations	Private-Label MBS	State and Local Housing Agency Obligations	Private-Label MBS
Balance, at beginning of period	$ 65	$ 2,536	$ 50	$ 4,312
Total gains (losses) included in earnings				
Net gains (losses) on sale of available-for-sale securities	—	1	—	—
Interest income	—	20	—	35
Net other-than-temporary impairment losses	—	—	—	(7)
Provision (reversal) for credit losses on available-for-sale securities	—	11	—	—
Total gains (losses) included in other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	3	89	1	—
Net amount of impairment losses reclassified to (from) non-interest income	—	—	—	4
Net change in fair value of other-than-temporarily impaired securities	—	14	—	(12)
Purchases, issuances, sales, maturities, and settlements				
Sales and maturities	(8)	—	—	—
Settlements	—	(135)	—	(216)
Balance, at end of period	$ 60	$ 2,536	$ 51	$ 4,116
Total amount of unrealized gains (losses) for the period included in OCI relating to assets held at the end of the period	$ 2	$ 104		
Total amount of gains (losses) for the period included in earnings attributable to the change in unrealized gains/losses relating to assets held at the end of the period	$ —	$ (35)	$ —	$ 14

	Six Months Ended June 30, 2020		Six Months Ended June 30, 2019	
	State and Local Housing Agency Obligations	Private-Label MBS	State and Local Housing Agency Obligations	Private-Label MBS
Balance, at beginning of period	$ 65	$ 3,642	$ 50	$ 4,473
Total gains (losses) included in earnings				
Net gains (losses) on sale of available-for-sale securities	—	82	—	—
Interest income	—	45	—	71
Net other-than-temporary impairment losses	—	—	—	(8)
Provision (reversal) for credit losses on available-for-sale securities	—	(31)	—	—
Total gains (losses) included in other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	3	(185)	1	—
Net amount of impairment losses reclassified to (from) non-interest income	—	—	—	4
Net change in fair value of other-than-temporarily impaired securities	—	(16)	—	(8)
Purchases, issuances, sales, maturities, and settlements				
Sales and maturities	(8)	(726)	—	—
Settlements	—	(276)	—	(416)
Transfers from held-to-maturity to available-for-sale securities	—	1	—	—
Balance, at end of period	$ 60	$ 2,536	$ 51	$ 4,116
Total amount of unrealized gains (losses) for the period included in OCI relating to assets held at the end of the period	$ 2	$ (157)		
Total amount of gains (losses) for the period included in earnings attributable to the change in unrealized gains/losses relating to assets held at the end of the period	$ —	$ 12	$ —	$ 34

Fair Value Option

The fair value option provides an irrevocable option to elect fair value as an alternative measurement for selected financial assets, financial liabilities, unrecognized firm commitments, and written loan commitments not previously carried at fair value. It requires entities to display the fair value of those assets and liabilities for which the entity has chosen to use fair value on the face of the statement of condition. Fair value is used for both the initial and subsequent measurement of the designated assets, liabilities and commitments, with the changes in fair value recognized in net income. Interest income and interest expense on advances and consolidated obligations at fair value are recognized solely on the contractual amount of interest due or unpaid. Any transaction fees or costs are immediately recognized into non-interest income or non-interest expense.

The FHLBanks of New York, Cincinnati, Chicago, and San Francisco (Electing FHLBanks) have each elected the fair value option for certain financial instruments when a hedge relationship does not qualify for hedge accounting or may be at risk for not meeting hedge effectiveness requirements. These fair value elections were made primarily in an effort to mitigate the potential income statement volatility that can arise when an economic derivative is adjusted for changes in fair value, but the related hedged item is not.

Table 11.4 presents net gains (losses) recognized in earnings related to financial assets and liabilities for which the fair value option was elected during the three and six months ended June 30, 2020 and 2019.

Table 11.4 - Fair Value Option - Financial Assets and Liabilities
(dollars in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
Net Gains (Losses) from Changes in Fair Value Recognized in Earnings	**2020**	**2019**	**2020**	**2019**
Advances	$ 32	$ 82	$ 183	$ 137
Mortgage loans held for sale(1)	—	—	2	—
Consolidated discount notes	32	—	(14)	—
Consolidated bonds	23	(40)	(28)	(72)
Total net gains (losses)	$ 87	$ 42	$ 143	$ 65

(1) Included in other assets, net on the Combined Statement of Condition.

For instruments for which the fair value option has been elected, the related contractual interest income, contractual interest expense, and the discount amortization on fair value option discount notes are recorded as part of net interest income on the Combined Statement of Income. The remaining changes in fair value for instruments for which the fair value option has been elected are recorded as net gains (losses) on financial instruments held under fair value option on the Combined Statement of Income, except for changes in fair value related to instrument specific credit risk, which are recorded in AOCI on the Combined Statement of Condition. Each of the Electing FHLBanks determined that none of the remaining changes in fair value were related to instrument specific credit risk during the six months ended June 30, 2020 and 2019. In determining that there has been no change in instrument specific credit risk period to period, the Electing FHLBanks primarily considered the following factors:

- The FHLBanks are federally chartered GSEs, and as a result of this status, the FHLBanks' consolidated obligations have historically received the same credit ratings as the government bond credit rating of the United States, even though they are not obligations of the United States and are not guaranteed by the United States.

- Each FHLBank is jointly and severally liable with the other FHLBanks for the payment of principal and interest on all consolidated obligations of each of the FHLBanks.

Table 11.5 presents the difference between the aggregate fair value and the aggregate unpaid principal balance outstanding for advances, mortgage loans held for sale, and consolidated obligations for which the fair value option has been elected as of June 30, 2020 and December 31, 2019.

Table 11.5 - Aggregate Fair Value and Aggregate Unpaid Balance
(dollars in millions)

	June 30, 2020			December 31, 2019		
	Aggregate Fair Value	**Aggregate Unpaid Principal Balance**	**Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance**	**Aggregate Fair Value**	**Aggregate Unpaid Principal Balance**	**Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance**
Advances	$ 5,364	$ 5,070	$ 294	$ 7,183	$ 7,060	$ 123
Mortgage loans held for sale(1)	130	123	7	83	81	2
Consolidated discount notes	32,308	32,271	37	32,539	32,583	(44)
Consolidated bonds	5,949	5,898	51	25,212	25,096	116

(1) Included in other assets, net on the Combined Statement of Condition.

Note 12 - Commitments and Contingencies

Off-Balance Sheet Commitments

Table 12.1 presents off-balance sheet commitments at June 30, 2020 and December 31, 2019. Each FHLBank has deemed it unnecessary to record any liability for credit losses on these commitments at June 30, 2020 and December 31, 2019.

Table 12.1 - Off-Balance Sheet Commitments
(dollars in millions)

	June 30, 2020			December 31, 2019
Notional amount	Expire Within One Year	Expire After One Year	Total	Total
Standby letters of credit notional amount(1)	$ 145,894	$ 23,155	$ 169,049	$ 178,373
Unsettled consolidated discount notes, principal amount	8,441	—	8,441	6,629
Commitments to purchase mortgage loans	3,422	—	3,422	2,218
Commitments to fund additional advances	2,803	114	2,917	1,462
Commitments for standby bond purchases	717	1,990	2,707	2,522
Unused lines of credit - advances	2,336	—	2,336	2,326
Unsettled consolidated bonds, principal amount	1,346	—	1,346	758
Other	3	—	3	1

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(1) Excludes unconditional commitments to issue standby letters of credit of $411 million and $87 million at June 30, 2020 and December 31, 2019.

Standby Letters of Credit. An FHLBank issues standby letters of credit on behalf of its members to support certain obligations of the members (or member's customers) to third-party beneficiaries. These standby letters of credit are subject to the same collateralization and borrowing limits that are applicable to advances. Standby letters of credit may be offered to assist members in facilitating residential housing finance, community lending, and asset-liability management, and to provide liquidity. In particular, members often use standby letters of credit as collateral for deposits from federal, state, and local government agencies. Standby letters of credit are executed for members for a fee. If an FHLBank is required to make payment for a beneficiary's draw, the member either reimburses the FHLBank for the amount drawn or, subject to the applicable FHLBank's discretion, the amount drawn may be converted into a collateralized advance to the member. However, standby letters of credit usually expire without being drawn upon. At June 30, 2020, standby letters of credit have original expiration periods of up to 20 years, expiring no later than 2039. The carrying value of guarantees related to standby letters of credit are recorded in other liabilities and were $89 million and $173 million at June 30, 2020 and December 31, 2019.

Each FHLBank monitors the creditworthiness of its members that have standby letters of credit. In addition, standby letters of credit are subject to the same collateralization and borrowing limits that apply to advances and are fully collateralized at the time of issuance.

Standby Bond-Purchase Agreements. Certain FHLBanks have entered into standby bond-purchase agreements with state housing authorities within their district whereby these FHLBanks agree to provide liquidity for a fee. If required, the affected FHLBanks will purchase and hold the state housing authority's bonds until the designated marketing agent can find a suitable investor or the state housing authority repurchases the bond according to a schedule established by the standby bond-purchase agreement. Each standby bond-purchase agreement dictates the specific terms that would require the affected FHLBank to purchase the bond and typically allows the FHLBank to terminate the agreement upon the occurrence of a default event of the issuer. The standby bond-purchase commitments entered into by these FHLBanks have original expiration periods of up to seven years, currently expiring no later than 2026, although some are renewable at the option of the affected FHLBank. At both June 30, 2020 and December 31, 2019, the FHLBanks had standby bond-purchase commitments with 13 state housing authorities. During the six months ended June 30, 2020, the FHLBanks were required to purchase one bond for $122 million under these agreements. During the six months ended June 30, 2019, the FHLBanks were not required to purchase any bonds under these agreements.

Pledged Collateral

Certain FHLBanks pledged securities, as collateral, related to derivatives. (See *Note 6 - Derivatives and Hedging Activities* for additional information about the FHLBanks' pledged collateral and other credit-risk-related contingent features.)

Legal Proceedings

The FHLBanks are subject to legal proceedings arising in the normal course of business. The FHLBanks would record an accrual for a loss contingency when it is probable that a loss has been incurred and the amount can be reasonably estimated. After consultation with legal counsel, management of each FHLBank does not anticipate that the ultimate liability, if any, arising out of these matters will have a material effect on its FHLBank's financial condition, results of operations, or cash flows.

Note 13 - Subsequent Events

Subsequent events have been evaluated from July 1, 2020, through the time of this Combined Financial Report publication. No significant subsequent events were identified, except for the declaration of dividends or repurchase or redemption of excess capital stock, which generally occur in the normal course of business unless there are regulatory or self-imposed restrictions, and the following events:

FHLBank of Boston

In the third quarter of 2020, the FHLBank of Boston realized a net gain of $0.5 million on the sale of HTM PLMBS, which had an amortized cost of $12.2 million, and of which at least 85% of the principal outstanding at acquisition had been collected.

Additionally, during the third quarter of 2020, the FHLBank of Boston adopted Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASU 2020-04), which provides a one-time election to sell, transfer, or both sell and transfer debt securities classified as HTM that reference a rate affected by reference rate reform and that were classified as HTM before January 1, 2020. Upon adopting this provision, the FHLBank of Boston:

- sold certain HTM PLMBS which had an amortized cost of $82.3 million and realized a net gain of $6.2 million; and
- transferred from HTM to AFS certain securities which had an amortized cost of $254.2 million and a fair value of $269.6 million on the date of transfer.

Subsequent to the transfer to AFS, the FHLBank of Boston sold certain AFS PLMBS which had an amortized cost of $139.5 million and realized a net gain of $25.9 million.

In conjunction with these sales and transfers, the FHLBank of Boston reduced the allowance for credit losses on these securities by $5.3 million. Following the sales of these PLMBS, the amortized cost of PLMBS remaining in the FHLBank of Boston's AFS portfolio totaled $18.3 million.

The FHLBank of Boston will record these gains on sale in the third quarter of 2020.

FHLBank of San Francisco

On April 6, 2020, the FHLBank of San Francisco filed a proof of claim as a "potentially eligible claimant" to share in disgorgement proceeds paid into a distribution fund in connection with a Securities and Exchange Commission enforcement action. Subsequent to June 30, 2020, the FHLBank of San Francisco received payment of disgorgement proceeds in the amount of $85 million. The FHLBank of San Francisco will record the proceeds in other income in the third quarter of 2020.

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CONDITION
JUNE 30, 2020
(Unaudited)

(dollars in millions, except par value)	Combined	Combining Adjustments	Boston	New York
Assets				
Cash and due from banks	$ 5,807	$ 1	$ 248	$ 44
Investments, net	351,047	(140)	16,286	41,376
Advances	557,547	—	24,828	113,789
Mortgage loans held for portfolio, net	72,912	(3)	4,411	3,165
Other assets, net	5,017	3	388	498
Total assets	$ 992,330	$ (139)	$ 46,161	$ 158,872
Liabilities				
Deposits	$ 15,793	$ (23)	$ 1,191	$ 1,590
Consolidated obligations				
Discount notes	391,471	(2)	17,309	89,500
Bonds	526,394	(118)	24,563	59,032
Total consolidated obligations	917,865	(120)	41,872	148,532
Mandatorily redeemable capital stock	1,097	1	6	4
Other liabilities	5,076	1	246	608
Total liabilities	939,831	(141)	43,315	150,734
Capital				
Capital stock				
Class B putable ($100 par value) issued and outstanding	31,584	1	1,519	6,334
Class A putable ($100 par value) issued and outstanding	501	—	—	—
Total capital stock	32,085	1	1,519	6,334
Retained earnings				
Unrestricted	16,046	1	1,098	1,150
Restricted	5,163	(1)	357	734
Total retained earnings	21,209	—	1,455	1,884
Accumulated other comprehensive income (loss)	(795)	1	(128)	(80)
Total capital	52,499	2	2,846	8,138
Total liabilities and capital	$ 992,330	$ (139)	$ 46,161	$ 158,872

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 377	$ 4,188	$ 23	$ 99	$ 48	$ 483	$ 95	$ 28	$ 173
22,333	54,167	29,533	25,509	36,005	34,315	32,000	20,634	39,029
49,614	67,221	48,913	34,848	49,250	57,942	38,643	21,529	50,970
5,242	263	11,704	10,083	10,947	9,246	4,020	10,946	2,888
409	757	472	531	481	499	202	397	380
$ 77,975	$ 126,596	$ 90,645	$ 71,070	$ 96,731	$ 102,485	$ 74,960	$ 53,534	$ 93,440
$ 952	$ 2,192	$ 1,236	$ 1,145	$ 1,465	$ 1,654	$ 2,460	$ 989	$ 942
26,052	58,295	44,324	28,234	37,440	21,364	35,978	13,561	19,416
46,582	59,925	39,339	36,973	51,760	72,748	32,695	36,446	66,449
72,634	118,220	83,663	65,207	89,200	94,112	68,673	50,007	85,865
304	1	19	300	289	81	7	2	83
266	321	683	1,100	430	639	178	181	423
74,156	120,734	85,601	67,752	91,384	96,486	71,318	51,179	87,313
2,371	3,680	3,813	2,194	1,837	3,802	2,474	891	2,668
—	—	—	—	—	—	—	501	—
2,371	3,680	3,813	2,194	1,837	3,802	2,474	1,392	2,668
899	1,630	765	868	3,274	1,718	1,122	756	2,765
435	570	482	260	599	539	218	241	729
1,334	2,200	1,247	1,128	3,873	2,257	1,340	997	3,494
114	(18)	(16)	(4)	(363)	(60)	(172)	(34)	(35)
3,819	5,862	5,044	3,318	5,347	5,999	3,642	2,355	6,127
$ 77,975	$ 126,596	$ 90,645	$ 71,070	$ 96,731	$ 102,485	$ 74,960	$ 53,534	$ 93,440

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CONDITION
DECEMBER 31, 2019

(dollars in millions, except par value)	Combined	Combining Adjustments	Boston	New York
Assets				
Cash and due from banks	$ 4,960	$ 1	$ 69	$ 603
Investments, net	374,995	(126)	16,144	56,832
Advances	641,519	1	34,596	100,695
Mortgage loans held for portfolio, net	72,492	2	4,501	3,173
Other assets, net	5,147	(5)	353	759
Total assets	$ 1,099,113	$ (127)	$ 55,663	$ 162,062
Liabilities				
Deposits	$ 10,404	$ (12)	$ 674	$ 1,194
Consolidated obligations				
Discount notes	404,035	1	27,681	73,959
Bonds	622,161	(116)	23,889	78,764
Total consolidated obligations	1,026,196	(115)	51,570	152,723
Mandatorily redeemable capital stock	1,378	—	6	5
Other liabilities	5,708	(1)	268	608
Total liabilities	1,043,686	(128)	52,518	154,530
Capital				
Capital stock				
Class B putable ($100 par value) issued and outstanding	34,047	—	1,869	5,779
Class A putable ($100 par value) issued and outstanding	448	—	—	—
Total capital stock	34,495	—	1,869	5,779
Retained earnings				
Unrestricted	15,686	1	1,114	1,116
Restricted	4,902	—	349	685
Total retained earnings	20,588	1	1,463	1,801
Accumulated other comprehensive income (loss)	344	—	(187)	(48)
Total capital	55,427	1	3,145	7,532
Total liabilities and capital	$ 1,099,113	$ (127)	$ 55,663	$ 162,062

	Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
	$ 21	$ 911	$ 21	$ 220	$ 29	$ 1,029	$ 21	$ 1,917	$ 118
	24,573	50,617	34,389	23,577	38,882	38,465	33,918	20,087	37,637
	65,610	97,167	47,370	32,480	50,508	80,360	37,117	30,241	65,374
	5,114	296	11,235	10,815	10,000	9,334	4,075	10,633	3,314
	406	866	477	419	408	415	251	399	399
	$ 95,724	$ 149,857	$ 93,492	$ 67,511	$ 99,827	$ 129,603	$ 75,382	$ 63,277	$ 106,842
	$ 573	$ 1,492	$ 951	$ 960	$ 847	$ 1,112	$ 1,286	$ 790	$ 537
	23,141	52,134	49,084	17,677	41,675	29,531	34,328	27,448	27,376
	66,808	88,503	38,440	44,715	50,474	91,553	35,746	32,013	71,372
	89,949	140,637	87,524	62,392	92,149	121,084	70,074	59,461	98,748
	344	1	22	323	324	206	7	2	138
	385	564	550	679	1,053	475	217	232	678
	91,251	142,694	89,047	64,354	94,373	122,877	71,584	60,485	100,101
	3,055	4,988	3,367	1,974	1,713	4,517	2,466	1,319	3,000
	—	—	—	—	—	—	—	448	—
	3,055	4,988	3,367	1,974	1,713	4,517	2,466	1,767	3,000
	911	1,616	648	864	3,197	1,661	1,039	765	2,754
	415	537	446	251	573	504	194	235	713
	1,326	2,153	1,094	1,115	3,770	2,165	1,233	1,000	3,467
	92	22	(16)	68	(29)	44	99	25	274
	4,473	7,163	4,445	3,157	5,454	6,726	3,798	2,792	6,741
	$ 95,724	$ 149,857	$ 93,492	$ 67,511	$ 99,827	$ 129,603	$ 75,382	$ 63,277	$ 106,842

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF INCOME
THREE MONTHS ENDED JUNE 30, 2020 and 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
June 30, 2020				
Interest income				
Advances	$ 1,765	$ —	$ 105	$ 326
Investments	986	(2)	46	152
Mortgage loans held for portfolio	496	1	33	24
Other interest income	—	(1)	—	—
Total interest income	3,247	(2)	184	502
Interest expense				
Consolidated obligations - Discount notes	652	—	48	96
Consolidated obligations - Bonds	1,332	2	94	176
Other interest expense	15	(1)	—	—
Total interest expense	1,999	1	142	272
Net interest income	1,248	(3)	42	230
Provision (reversal) for credit losses	8	—	3	3
Net interest income after provision (reversal) for credit losses	1,240	(3)	39	227
Non-interest income (loss)	(79)	(5)	(17)	(23)
Non-interest expense	402	(11)	20	51
Affordable Housing Program assessments	77	1	—	15
Net income	$ 682	$ 2	$ 2	$ 138
June 30, 2019				
Interest income				
Advances	$ 4,592	$ 1	$ 227	$ 705
Investments	2,367	(5)	97	292
Mortgage loans held for portfolio	550	(1)	38	26
Other interest income	—	(1)	—	—
Total interest income	7,509	(6)	362	1,023
Interest expense				
Consolidated obligations - Discount notes	2,526	1	151	357
Consolidated obligations - Bonds	3,821	(2)	151	496
Other interest expense	59	(2)	2	6
Total interest expense	6,406	(3)	304	859
Net interest income	1,103	(3)	58	164
Provision (reversal) for credit losses	—	(1)	—	—
Net interest income after provision (reversal) for credit losses	1,103	(2)	58	164
Non-interest income (loss)	33	(8)	4	(1)
Non-interest expense	346	(7)	22	43
Affordable Housing Program assessments	81	(2)	4	12
Net income	$ 709	$ (1)	$ 36	$ 108

	Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
	$ 170	$ 232	$ 172	$ 77	$ 145	$ 231	$ 105	$ 60	$ 142
	73	77	118	59	126	88	96	38	115
	41	3	74	59	76	67	28	74	16
	—	—	—	—	—	—	—	1	—
	284	312	364	195	347	386	229	173	273
	57	93	83	27	82	43	54	22	47
	120	129	130	97	123	223	64	92	82
	4	—	1	3	4	1	—	1	2
	181	222	214	127	209	267	118	115	131
	103	90	150	68	138	119	111	58	142
	2	—	—	—	4	—	1	2	(7)
	101	90	150	68	134	119	110	56	149
	—	6	(16)	(26)	9	15	(3)	(10)	(9)
	34	34	24	27	85	39	33	23	43
	7	6	11	2	6	10	7	3	9
	$ 60	$ 56	$ 99	$ 13	$ 52	$ 85	$ 67	$ 20	$ 88
	$ 492	$ 659	$ 321	$ 222	$ 362	$ 713	$ 245	$ 189	$ 456
	162	335	240	159	263	255	193	114	262
	42	5	85	94	78	70	27	75	11
	—	—	—	—	—	—	—	1	—
	696	999	646	475	703	1,038	465	379	729
	143	410	244	140	280	247	231	151	171
	437	450	299	269	300	636	166	177	442
	6	7	5	6	7	8	5	3	6
	586	867	548	415	587	891	402	331	619
	110	132	98	60	116	147	63	48	110
	1	—	—	—	—	—	—	—	—
	109	132	98	60	116	147	63	48	110
	(11)	4	(3)	4	21	3	23	4	(7)
	22	32	23	25	52	43	25	18	48
	8	11	8	4	9	11	7	3	6
	$ 68	$ 93	$ 64	$ 35	$ 76	$ 96	$ 54	$ 31	$ 49

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF INCOME
SIX MONTHS ENDED JUNE 30, 2020 and 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
June 30, 2020				
Interest income				
Advances	$ 4,657	$ 1	$ 274	$ 791
Investments	2,720	(4)	122	401
Mortgage loans held for portfolio	1,062	1	70	50
Other interest income	1	—	—	—
Total interest income	8,440	(2)	466	1,242
Interest expense				
Consolidated obligations - Discount notes	2,175	1	175	323
Consolidated obligations - Bonds	4,042	(1)	218	533
Other interest expense	60	(1)	1	3
Total interest expense	6,277	(1)	394	859
Net interest income	2,163	(1)	72	383
Provision (reversal) for credit losses	51	—	2	3
Net interest income after provision (reversal) for credit losses	2,112	(1)	70	380
Non-interest income (loss)	113	(16)	21	(15)
Non-interest expense	767	(19)	42	95
Affordable Housing Program assessments	149	1	5	27
Net income	$ 1,309	$ 1	$ 44	$ 243
June 30, 2019				
Interest income				
Advances	$ 9,364	$ —	$ 502	$ 1,397
Investments	4,655	(7)	206	572
Mortgage loans held for portfolio	1,112	1	75	51
Other interest income	2	1	—	—
Total interest income	15,133	(5)	783	2,020
Interest expense				
Consolidated obligations - Discount notes	5,087	1	329	672
Consolidated obligations - Bonds	7,554	(2)	306	995
Other interest expense	115	(3)	4	12
Total interest expense	12,756	(4)	639	1,679
Net interest income	2,377	(1)	144	341
Provision (reversal) for credit losses	1	—	—	—
Net interest income after provision (reversal) for credit losses	2,376	(1)	144	341
Non-interest income (loss)	96	(14)	(3)	12
Non-interest expense	680	(15)	41	83
Affordable Housing Program assessments	183	(1)	10	27
Net income	$ 1,609	$ 1	$ 90	$ 243

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 453	$ 651	$ 348	$ 246	$ 383	$ 630	$ 268	$ 191	$ 421
211	297	300	173	366	244	218	122	270
86	7	163	141	163	145	62	159	15
—	—	—	—	—	—	—	1	—
750	955	811	560	912	1,019	548	473	706
158	304	259	100	267	153	169	115	151
381	471	316	321	351	633	218	243	358
12	5	4	8	10	5	4	3	6
551	780	579	429	628	791	391	361	515
199	175	232	131	284	228	157	112	191
5	—	—	—	6	—	2	1	32
194	175	232	131	278	228	155	111	159
(31)	99	15	(30)	11	51	32	(33)	9
55	92	48	53	142	82	56	42	79
12	18	20	5	15	20	13	4	9
$ 96	$ 164	$ 179	$ 43	$ 132	$ 177	$ 118	$ 32	$ 80
$ 1,030	$ 1,315	$ 724	$ 434	$ 720	$ 1,428	$ 483	$ 377	$ 954
312	663	449	296	515	503	396	226	524
84	9	174	190	154	139	50	148	37
—	—	—	—	—	—	—	1	—
1,426	1,987	1,347	920	1,389	2,070	929	752	1,515
330	782	556	259	561	518	427	300	352
846	916	562	532	579	1,231	357	335	897
10	13	9	12	15	15	10	6	12
1,186	1,711	1,127	803	1,155	1,764	794	641	1,261
240	276	220	117	234	306	135	111	254
1	—	—	—	—	—	—	—	—
239	276	220	117	234	306	135	111	254
(7)	11	(21)	7	39	8	39	17	8
47	71	46	48	102	82	49	35	91
19	22	16	8	18	24	13	9	18
$ 166	$ 194	$ 137	$ 68	$ 153	$ 208	$ 112	$ 84	$ 153

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF COMPREHENSIVE INCOME
THREE MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
June 30, 2020				
Net income	$ 682	$ 2	$ 2	$ 138
Other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	1,053	—	116	49
Net non-credit portion of other-than-temporary impairment gains (losses) on investment securities	8	(1)	3	—
Net unrealized gains (losses) relating to hedging activities	(16)	—	1	(6)
Pension and postretirement benefits	2	—	—	2
Total other comprehensive income (loss)	1,047	(1)	120	45
Comprehensive income (loss)	$ 1,729	$ 1	$ 122	$ 183
June 30, 2019				
Net income	$ 709	$ (1)	$ 36	$ 108
Other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	17	(2)	36	62
Net non-credit portion of other-than-temporary impairment gains (losses) on investment securities	8	2	6	1
Net unrealized gains (losses) relating to hedging activities	(128)	1	(2)	(81)
Pension and postretirement benefits	(1)	1	—	—
Total other comprehensive income (loss)	(104)	2	40	(18)
Comprehensive income (loss)	$ 605	$ 1	$ 76	$ 90

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 60	$ 56	$ 99	$ 13	$ 52	$ 85	$ 67	$ 20	$ 88
89	—	—	79	347	60	86	35	192
—	—	—	—	5	—	—	—	1
—	—	—	—	(4)	—	(7)	—	—
1	1	1	(2)	—	(1)	—	—	—
90	1	1	77	348	59	79	35	193
$ 150	$ 57	$ 100	$ 90	$ 400	$ 144	$ 146	$ 55	$ 281
$ 68	$ 93	$ 64	$ 35	$ 76	$ 96	$ 54	$ 31	$ 49
9	—	—	(8)	(17)	(32)	(44)	4	9
(4)	(8)	—	—	7	—	—	—	4
—	—	—	—	(11)	—	(35)	—	—
—	—	1	(4)	1	—	—	—	—
5	(8)	1	(12)	(20)	(32)	(79)	4	13
$ 73	$ 85	$ 65	$ 23	$ 56	$ 64	$ (25)	$ 35	$ 62

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF COMPREHENSIVE INCOME
SIX MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
June 30, 2020				
Net income	$ 1,309	$ 1	$ 44	$ 243
Other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	(865)	—	30	123
Net non-credit portion of other-than-temporary impairment gains (losses) on investment securities	37	(1)	26	1
Net unrealized gains (losses) relating to hedging activities	(307)	—	2	(159)
Pension and postretirement benefits	(4)	2	1	3
Total other comprehensive income (loss)	(1,139)	1	59	(32)
Comprehensive income (loss)	$ 170	$ 2	$ 103	$ 211
June 30, 2019				
Net income	$ 1,609	$ 1	$ 90	$ 243
Other comprehensive income				
Net unrealized gains (losses) on available-for-sale securities	247	(1)	70	94
Net non-credit portion of other-than-temporary impairment gains (losses) on investment securities	27	—	13	2
Net unrealized gains (losses) relating to hedging activities	(198)	1	(4)	(126)
Pension and postretirement benefits	5	1	—	1
Total other comprehensive income (loss)	81	1	79	(29)
Comprehensive income (loss)	$ 1,690	$ 2	$ 169	$ 214

	Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
	$ 96	$ 164	$ 179	$ 43	$ 132	$ 177	$ 118	$ 32	$ 80
	21	(41)	(1)	(70)	(284)	(104)	(170)	(59)	(310)
	—	—	—	—	9	—	1	—	1
	—	—	—	—	(48)	—	(102)	—	—
	1	1	1	(2)	(11)	—	—	—	—
	22	(40)	—	(72)	(334)	(104)	(271)	(59)	(309)
	$ 118	$ 124	$ 179	$ (29)	$ (202)	$ 73	$ (153)	$ (27)	$ (229)
	$ 166	$ 194	$ 137	$ 68	$ 153	$ 208	$ 112	$ 84	$ 153
	45	—	—	19	(19)	(31)	7	16	47
	(4)	(16)	—	—	13	—	1	—	18
	—	—	—	—	(13)	—	(56)	—	—
	—	1	1	(4)	5	—	—	—	—
	41	(15)	1	15	(14)	(31)	(48)	16	65
	$ 207	$ 179	$ 138	$ 83	$ 139	$ 177	$ 64	$ 100	$ 218

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CAPITAL
THREE MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Balance, March 31, 2020	$ 59,924	$ 3	$ 3,491	$ 9,002
Adjustment for cumulative effect of accounting changes	—	—	—	—
Partial recovery of prior capital distribution to Financing Corporation	200	(2)	4	18
Comprehensive income (loss)	1,729	1	122	183
Proceeds from issuance of capital stock	3,846	1	110	712
Repurchases/redemptions of capital stock	(12,043)	2	(857)	(1,691)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(782)	(1)	—	—
Dividends of capital stock	27	—	—	—
Dividends				
Cash	(375)	(2)	(24)	(86)
Stock	(27)	—	—	—
Balance, June 30, 2020	$ 52,499	$ 2	$ 2,846	$ 8,138
Balance, March 31, 2019	$ 56,161	$ —	$ 2,964	$ 7,375
Adjustment for cumulative effect of accounting changes	—	—	—	—
Comprehensive income (loss)	605	1	76	90
Proceeds from issuance of capital stock	11,624	—	555	2,023
Repurchases/redemptions of capital stock	(10,404)	—	(390)	(1,849)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(387)	—	—	(4)
Dividends of capital stock	43	—	—	—
Dividends				
Cash	(498)	—	(31)	(88)
Stock	(43)	—	—	—
Balance, June 30, 2019	$ 57,101	$ 1	$ 3,174	$ 7,547

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 4,959	$ 8,818	$ 5,875	$ 3,141	$ 5,065	$ 6,733	$ 3,716	$ 2,714	$ 6,407
—	—	—	—	—	—	—	—	—
9	29	17	11	19	26	18	11	40
150	57	100	90	400	144	146	55	281
297	858	32	109	423	547	316	297	144
(1,517)	(3,810)	(950)	—	(540)	(1,398)	(554)	(21)	(707)
(39)	(20)	(8)	(13)	—	—	—	(701)	—
—	—	—	—	—	—	12	15	—
(40)	(70)	(22)	(20)	(20)	(53)	—	—	(38)
—	—	—	—	—	—	(12)	(15)	—
$ 3,819	$ 5,862	$ 5,044	$ 3,318	$ 5,347	$ 5,999	$ 3,642	$ 2,355	$ 6,127
$ 5,159	$ 6,923	$ 5,077	$ 3,138	$ 5,329	$ 7,359	$ 3,712	$ 2,479	$ 6,646
—	—	—	—	—	—	—	—	—
73	85	65	23	56	64	(25)	35	62
1,830	2,902	148	64	854	1,958	523	425	342
(1,596)	(2,459)	(401)	—	(827)	(1,833)	(391)	(324)	(334)
(337)	—	—	—	(9)	(3)	—	(34)	—
—	—	—	—	—	—	19	24	—
(73)	(81)	(58)	(26)	(21)	(68)	—	—	(52)
—	—	—	—	—	—	(19)	(24)	—
$ 5,056	$ 7,370	$ 4,831	$ 3,199	$ 5,382	$ 7,477	$ 3,819	$ 2,581	$ 6,664

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CAPITAL
SIX MONTHS ENDED JUNE 30, 2020 AND 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Balance, December 31, 2019	$ 55,427	$ 1	$ 3,145	$ 7,532
Adjustment for cumulative effect of accounting change	(28)	1	(8)	(4)
Partial recovery of prior capital distribution to Financing Corporation	200	(2)	4	18
Comprehensive income (loss)	170	2	103	211
Proceeds from issuance of capital stock	21,225	2	1,576	4,331
Repurchases/redemptions of capital stock	(22,152)	—	(1,926)	(3,776)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(1,550)	(1)	—	—
Dividends of capital stock	67	—	—	—
Dividends				
Cash	(793)	(1)	(48)	(174)
Stock	(67)	—	—	—
Balance, June 30, 2020	$ 52,499	$ 2	$ 2,846	$ 8,138
Balance, December 31, 2018	$ 58,344	$ 1	$ 3,607	$ 7,747
Adjustment for cumulative effect of accounting changes	15	(1)	—	—
Comprehensive income (loss)	1,690	2	169	214
Proceeds from issuance of capital stock	20,517	1	836	3,672
Repurchases/redemptions of capital stock	(21,996)	1	(1,370)	(3,893)
Net shares reclassified (to)/from mandatorily redeemable capital stock	(444)	(1)	—	(4)
Dividends of capital stock	86	—	—	—
Dividends				
Cash	(1,025)	(2)	(68)	(189)
Stock	(86)	—	—	—
Balance, June 30, 2019	$ 57,101	$ 1	$ 3,174	$ 7,547

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 4,473	$ 7,163	$ 4,445	$ 3,157	$ 5,454	$ 6,726	$ 3,798	$ 2,792	$ 6,741
—	—	—	—	(7)	1	(2)	(6)	(3)
9	29	17	11	19	26	18	11	40
118	124	179	(29)	(202)	73	(153)	(27)	(229)
2,481	4,560	2,104	233	1,151	2,621	864	551	751
(3,126)	(5,846)	(1,100)	—	(1,026)	(3,330)	(883)	(59)	(1,080)
(39)	(22)	(558)	(13)	(1)	(6)	—	(907)	(3)
—	—	—	—	—	—	27	40	—
(97)	(146)	(43)	(41)	(41)	(112)	—	—	(90)
—	—	—	—	—	—	(27)	(40)	—
$ 3,819	$ 5,862	$ 5,044	$ 3,318	$ 5,347	$ 5,999	$ 3,642	$ 2,355	$ 6,127
$ 5,376	$ 7,647	$ 5,330	$ 3,050	$ 5,289	$ 7,548	$ 3,765	$ 2,454	$ 6,530
—	—	—	—	16	—	—	—	—
207	179	138	83	139	177	64	100	218
3,285	4,931	376	120	1,466	3,509	862	763	696
(3,308)	(5,221)	(889)	—	(1,476)	(3,614)	(870)	(678)	(678)
(361)	—	(1)	(2)	(10)	(5)	(2)	(58)	—
—	—	—	—	—	—	38	48	—
(143)	(166)	(123)	(52)	(42)	(138)	—	—	(102)
—	—	—	—	—	—	(38)	(48)	—
$ 5,056	$ 7,370	$ 4,831	$ 3,199	$ 5,382	$ 7,477	$ 3,819	$ 2,581	$ 6,664

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CASH FLOWS
SIX MONTHS ENDED JUNE 30, 2020
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Operating activities				
Net cash provided by (used in) operating activities	$ (7,836)	$ 1	$ (350)	$ (674)
Investing activities				
Net change/net proceeds and payments in				
Investments	25,137	12	240	15,171
Advances	91,286	(1)	9,920	(11,605)
Mortgage loans held for portfolio	(518)	(1)	77	(1)
Other investing activities	(30)	—	—	(11)
Net cash provided by (used in) investing activities	115,875	10	10,237	3,554
Financing activities				
Net change in deposits and pass-through reserves, and other financing activities	5,480	(7)	517	481
Net proceeds (payments) on derivative contracts with financing element	(379)	1	(109)	(4)
Net proceeds from issuance of consolidated obligations				
Discount notes	2,133,651	(1)	58,948	501,373
Bonds	272,329	(1)	7,059	37,394
Payments for maturing and retiring consolidated obligations				
Discount notes	(2,145,872)	(2)	(69,295)	(485,794)
Bonds	(369,046)	—	(6,434)	(57,287)
Proceeds from issuance of capital stock	21,225	2	1,576	4,331
Payments for repurchases/redemptions of capital stock	(22,152)	—	(1,926)	(3,776)
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(1,835)	—	—	(1)
Cash dividends paid	(793)	(1)	(48)	(174)
Partial recovery of prior capital distribution to Financing Corporation	200	(2)	4	18
Net cash provided by (used in) financing activities	(107,192)	(11)	(9,708)	(3,439)
Net increase (decrease) in cash and due from banks	847	—	179	(559)
Cash and due from banks at beginning of the period	4,960	1	69	603
Cash and due from banks at end of the period	$ 5,807	$ 1	$ 248	$ 44

Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ (431)	$ (794)	$ (322)	$ (502)	$ (2,013)	$ (251)	$ (983)	$ (347)	$ (1,170)
2,376	(4,086)	5,138	(1,948)	3,371	4,256	2,407	(492)	(1,308)
16,308	31,298	(1,141)	(1,663)	2,087	22,873	(851)	8,986	15,075
(137)	33	(494)	847	(979)	76	36	(357)	382
—	(2)	(1)	(3)	(9)	(3)	(3)	3	(1)
18,547	27,243	3,502	(2,767)	4,470	27,202	1,589	8,140	14,148
372	676	281	185	620	542	1,205	198	410
—	(2)	(1)	2	—	—	(239)	(2)	(25)
157,019	204,336	180,209	172,312	323,650	57,433	88,167	317,941	72,264
21,255	37,879	20,341	21,704	27,805	26,738	20,275	22,151	29,729
(154,100)	(198,130)	(184,963)	(161,738)	(327,833)	(65,532)	(86,486)	(331,811)	(80,188)
(41,494)	(66,506)	(19,462)	(29,484)	(26,743)	(45,752)	(23,453)	(17,755)	(34,676)
2,481	4,560	2,104	233	1,151	2,621	864	551	751
(3,126)	(5,846)	(1,100)	—	(1,026)	(3,330)	(883)	(59)	(1,080)
(79)	(22)	(561)	(36)	(40)	(131)	—	(907)	(58)
(97)	(146)	(43)	(41)	(41)	(112)	—	—	(90)
9	29	17	11	19	26	18	11	40
(17,760)	(23,172)	(3,178)	3,148	(2,438)	(27,497)	(532)	(9,682)	(12,923)
356	3,277	2	(121)	19	(546)	74	(1,889)	55
21	911	21	220	29	1,029	21	1,917	118
$ 377	$ 4,188	$ 23	$ 99	$ 48	$ 483	$ 95	$ 28	$ 173

FEDERAL HOME LOAN BANKS
CONDENSED COMBINING SCHEDULES—STATEMENTS OF CASH FLOWS
SIX MONTHS ENDED JUNE 30, 2019
(Unaudited)

(dollars in millions)	Combined	Combining Adjustments	Boston	New York
Operating activities				
Net cash provided by (used in) operating activities	$ (3,733)	$ 2	$ (190)	$ (240)
Investing activities				
Net change/net proceeds and payments in				
Loans to FHLBanks	—	(350)	—	250
Investments	(49,926)	(12)	2,014	(9,169)
Advances	42,984	1	6,192	3,405
Mortgage loans held for portfolio	(4,082)	1	(126)	(61)
Other investing activities	(42)	(3)	—	(8)
Net cash provided by (used in) investing activities	(11,066)	(363)	8,080	(5,583)
Financing activities				
Net change in deposits and pass-through reserves, and other financing activities	1,110	15	120	122
Net change in loans from FHLBanks	—	350	—	—
Net proceeds (payments) on derivative contracts with financing element	(200)	—	(38)	(10)
Net proceeds from issuance of consolidated obligations				
Discount notes	3,443,713	(2)	74,857	605,335
Bonds	280,584	1	5,182	41,556
Payments for maturing and retiring consolidated obligations				
Discount notes	(3,443,629)	2	(81,506)	(593,675)
Bonds	(263,860)	(1)	(5,869)	(47,127)
Proceeds from issuance of capital stock	20,517	1	836	3,672
Payments for repurchases/redemptions of capital stock	(21,996)	1	(1,370)	(3,893)
Payments for repurchases/redemptions of mandatorily redeemable capital stock	(271)	(3)	(15)	(4)
Cash dividends paid	(1,022)	(2)	(68)	(189)
Net cash provided by (used in) financing activities	14,946	362	(7,871)	5,787
Net increase (decrease) in cash and due from banks	147	1	19	(36)
Cash and due from banks at beginning of the period	522	(1)	10	85
Cash and due from banks at end of the period	$ 669	$ —	$ 29	$ 49

	Pittsburgh	Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
	$ (1,394)	$ (461)	$ (138)	$ (177)	$ (291)	$ 34	$ (512)	$ (48)	$ (318)
	—	500	—	—	—	—	—	—	(400)
	(3,895)	(2,192)	(8,829)	(3,443)	(3,506)	(7,213)	(2,125)	(9,032)	(2,524)
	960	7,433	12,118	(836)	1,826	5,314	2,187	(2,252)	6,636
	(213)	32	(148)	18	(1,166)	(494)	(850)	(790)	(285)
	1	—	(1)	(4)	7	(5)	(1)	4	(32)
	(3,147)	5,773	3,140	(4,265)	(2,839)	(2,398)	(789)	(12,070)	3,395
	174	237	40	275	107	32	(83)	38	33
	—	—	—	—	—	(500)	400	—	(250)
	—	(1)	—	1	1	—	(162)	(2)	11
	264,322	531,993	295,762	151,188	775,088	68,769	152,787	453,966	69,648
	36,859	42,555	19,474	13,680	17,351	37,497	16,096	12,088	38,245
	(266,207)	(533,211)	(301,227)	(149,471)	(773,405)	(74,683)	(148,909)	(447,429)	(73,908)
	(30,409)	(46,369)	(16,402)	(11,324)	(15,961)	(28,352)	(18,801)	(6,572)	(36,673)
	3,285	4,931	376	120	1,466	3,509	862	763	696
	(3,308)	(5,221)	(889)	—	(1,476)	(3,614)	(870)	(678)	(678)
	(41)	—	(1)	—	—	(57)	(2)	(59)	(89)
	(140)	(166)	(123)	(52)	(42)	(138)	—	—	(102)
	4,535	(5,252)	(2,990)	4,417	3,129	2,463	1,318	12,115	(3,067)
	(6)	60	12	(25)	(1)	99	17	(3)	10
	72	35	10	101	28	119	35	15	13
	$ 66	$ 95	$ 22	$ 76	$ 27	$ 218	$ 52	$ 12	$ 23

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SELECTED FINANCIAL DATA

	2020		2019		
(dollars in millions)	June 30,	March 31,	December 31,	September 30,	June 30,
Selected Statement of Condition Data at					
Investments(1)	$ 351,047	$ 350,685	$ 374,995	$ 351,720	$ 360,212
Advances	557,547	806,944	641,519	658,756	689,384
Mortgage loans held for portfolio, net	72,912	74,562	72,492	69,417	66,545
Total assets	992,330	1,259,103	1,099,113	1,085,878	1,122,006
Consolidated obligations					
Discount notes	391,471	576,593	404,035	388,380	426,335
Bonds	526,394	599,817	622,161	622,398	621,846
Total consolidated obligations	917,865	1,176,410	1,026,196	1,010,778	1,048,181
Mandatorily redeemable capital stock	1,097	1,726	1,378	1,390	1,237
Capital					
Total capital stock(2)	32,085	41,037	34,495	35,195	36,661
Retained earnings	21,209	20,729	20,588	20,183	20,017
Accumulated other comprehensive income (loss)	(795)	(1,842)	344	247	423
Total capital	52,499	59,924	55,427	55,625	57,101
Selected Statement of Income Data for the quarter ended					
Net interest income	$ 1,248	$ 915	$ 1,223	$ 1,082	$ 1,103
Provision (reversal) for credit losses	8	43	—	1	—
Net interest income after provision (reversal) for credit losses	1,240	872	1,223	1,081	1,103
Non-interest income (loss)	(79)	192	160	41	33
Non-interest expense	402	365	390	355	346
Affordable Housing Program Assessments	77	72	101	78	81
Net income	$ 682	$ 627	$ 892	$ 689	$ 709
Selected Other Data for the quarter ended					
Cash and stock dividends	$ 402	$ 458	$ 487	$ 523	$ 541
Dividend payout ratio(3)	58.94%	73.05%	54.60%	75.91%	76.30%
Return on average equity (annualized)(4)(5)	4.81%	4.51%	6.43%	4.95%	4.98%
Return on average assets (annualized)	0.24%	0.23%	0.33%	0.25%	0.26%
Average equity to average assets(5)	5.00%	5.05%	5.10%	5.10%	5.18%
Net interest margin(6)	0.45%	0.34%	0.45%	0.40%	0.41%
Selected Other Data at					
GAAP capital-to-asset ratio	5.29%	4.76%	5.04%	5.12%	5.09%
Regulatory capital-to-assets ratio(7)	5.48%	5.04%	5.14%	5.23%	5.16%

(1) Investments consist of interest-bearing deposits, securities purchased under agreements to resell, federal funds sold, trading securities, available-for-sale securities, and held-to-maturity securities.
(2) FHLBank capital stock is redeemable at the request of a member subject to the statutory redemption periods and other conditions and limitations. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information on the statutory redemption periods and other conditions and limitations.)
(3) Dividend payout ratio is equal to dividends declared in the period expressed as a percentage of net income in the period. This ratio may not be as relevant to the combined balances because there are no shareholders at the FHLBank System-wide level.
(4) Return on average equity is equal to net income expressed as a percentage of average total capital.
(5) Mandatorily redeemable capital stock is not included in the calculations of return on average equity or average equity to average assets.
(6) Net interest margin is equal to net interest income represented as a percentage of average interest-earning assets.
(7) The regulatory capital-to-assets ratio is calculated based on the FHLBanks' regulatory capital as a percentage of total assets. (See *Note 9 - Capital* to the accompanying combined financial statements for a definition and discussion of regulatory capital.)

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

Investors should read this financial discussion and analysis of combined financial condition and combined results of operations together with the combined financial statements and the accompanying notes in this Combined Financial Report of the Federal Home Loan Banks (FHLBanks). Each FHLBank discusses its financial condition and results of operations in its periodic reports filed with the U.S. Securities and Exchange Commission (SEC). The results of operations for interim periods are not necessarily indicative of the results to be expected for the year ending December 31, 2020, or for any future period. The unaudited combined financial statements, included in this Combined Financial Report, should be read in conjunction with the audited combined financial statements for the year ended December 31, 2019, included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019.

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

The combined financial statements include the financial results of the FHLBanks. (See *Condensed Combining Schedules* for information regarding each FHLBank's results.) Transactions between the FHLBanks have been eliminated in accordance with combination accounting principles similar to consolidation under GAAP.

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

Forward-Looking Information

Statements contained in this report, including statements describing the objectives, projections, estimates, or future predictions of the FHLBanks and the Office of Finance, may be "forward-looking statements." These statements may use forward-looking terminology, such as "anticipates," "believes," "could," "estimates," "expects," "may," "should," "will," "would," or their negatives or other variations on these terms. Investors should note that forward-looking statements, by their nature, involve risks or uncertainties, including those set forth in *Risk Factors* on pages 22 to 30 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, and as updated on page 63 of the Federal Home Loan Banks Combined Financial Report for the quarterly period ended March 31, 2020. Therefore, the actual results could differ materially from those expressed or implied in these forward-looking statements or could affect the extent to which a particular objective, projection, estimate, or prediction is realized.

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

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

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

- natural disasters, pandemics or other widespread health emergencies, terrorist attacks, or other unanticipated or catastrophic events, including the economic and financial disruptions and uncertainties and significant operational challenges created by the COVID-19 pandemic and related developments;

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

- changes to, and replacement of, the London Interbank Offered Rate (LIBOR) benchmark interest rate, and the use and acceptance of the Secured Overnight Financing Rate (SOFR);

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

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

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

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

- changes in domestic and foreign investor demand for consolidated obligations, including short-term funding, or the terms of derivative transactions and similar transactions, including changes in the relative attractiveness of consolidated obligations as compared to other investment opportunities, changes in the availability of other investment opportunities, changes in support from dealers of consolidated obligations, and changes resulting from any modification of the credit ratings of the U.S. government or the FHLBanks;

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

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

- the pace of technological change and the ability to develop, secure, and support technology and information systems to effectively manage the risks, including information security; and

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

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

Executive Summary

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

Overview

The FHLBanks are GSEs, federally chartered, but privately capitalized and independently managed. The FHLBanks together with the Office of Finance, a joint office of the FHLBanks, comprise the FHLBank System. Each of the FHLBanks and the Office of Finance operate under the supervisory and regulatory framework of the FHFA.

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

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

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

External Credit Ratings

The FHLBanks' ability to raise funds in the capital markets at narrow spreads to the U.S. Treasury yield curve is due largely to the FHLBanks' status as GSEs, which is reflected in their consolidated obligations receiving the same credit rating as the government bond credit rating of the United States, even though the consolidated obligations are not obligations of the United States and are not guaranteed by the United States. S&P Global Ratings (S&P), Moody's Investors Service (Moody's), or other rating organizations could downgrade or upgrade the credit rating of the U.S. government and GSEs, including the FHLBanks and their consolidated obligations. In addition to ratings on the FHLBanks' consolidated obligations, each FHLBank is rated individually by S&P and Moody's. Investors should note that a rating issued by a nationally recognized statistical rating organization is not a recommendation to buy, sell, or hold securities, and that the ratings may be revised or withdrawn by the rating organization at any time. Investors should evaluate the rating of each nationally recognized statistical rating organization independently. Investors should not take the historical or current ratings of the FHLBanks and their consolidated obligations as an indication of future ratings of the FHLBanks and their consolidated obligations. (See *External Credit Ratings* for more information.)

Business Environment

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

COVID-19 Pandemic. In March 2020, the President of the United States declared the COVID-19 outbreak a national emergency. The effects of the COVID-19 pandemic, and the governmental and public actions taken in response, on the global and U.S. economy and the FHLBanks continue to evolve, and the full duration and long-term impact of the pandemic remains uncertain. In late February and into March 2020, conditions in the financial markets deteriorated rapidly causing significant disruption to the availability of funds in the credit markets and resulting in adverse changes in interest rates, credit spreads, and asset prices. Although market liquidity and credit spreads improved in the second quarter of 2020, interest rates remained significantly lower compared to levels before the COVID-19 pandemic. In addition, the COVID-19 outbreak has resulted in shelter-in-place, stay-at-home, or similar orders, travel restrictions, and business closures across the United States, which have significantly reduced economic activity and created substantial uncertainty about the future economic environment. These conditions have had, and are expected to continue to have, a significant impact on the business and financial results of the FHLBanks. The extent to which the COVID-19 pandemic impacts the FHLBanks' businesses, financial condition, and results of operations will depend on many factors that are highly uncertain and difficult to predict, including, but not limited to: 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.

During the COVID-19 pandemic the FHLBanks have remained operational and continued to meet their funding needs and be a reliable source of liquidity to member financial institutions. For the health and safety of employees, beginning in March, each of the FHLBanks and the Office of Finance arranged for all or a substantial majority of its employees to work remotely, with some critical employees working out of either the primary office or the business continuity facilities. Thus far, the business continuity plans and technology systems of the FHLBanks and the Office of Finance have effectively supported these alternative work arrangements. The FHLBanks and the Office of Finance continue to monitor guidance from governmental authorities to determine when, and in what manner, it will be prudent for staff to return to their primary office locations, generally by expecting to follow a phased approach. Most employees at the FHLBanks and the Office of Finance continued to work remotely at June 30, 2020.

The FHLBanks have individually and collectively responded to the evolving needs of members and communities during the COVID-19 pandemic. Some of the initiatives undertaken at certain FHLBanks include:

- COVID-19 relief programs providing subsidized advances and grants;
- temporary relief provisions for collateral loan eligibility;
- temporary relief provisions for Mortgage Purchase Program and Mortgage Partnership Finance® Program loans, including forbearance under the Coronavirus Aid, Relief, and Economic Security Act; and
- Paycheck Protection Program loan eligibility as collateral for advances.

The FHLBanks continue to monitor the progression of the pandemic and are committed to assisting their members and their communities as impacts related to the pandemic continue to unfold. (See *Risk Factors* on pages 22 to 30 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, and as updated on page 63 of the Federal Home Loan Banks Combined Financial Report for the quarterly period ended March 31, 2020, for additional information on potential risks to the FHLBanks, including those from the COVID-19 pandemic.)

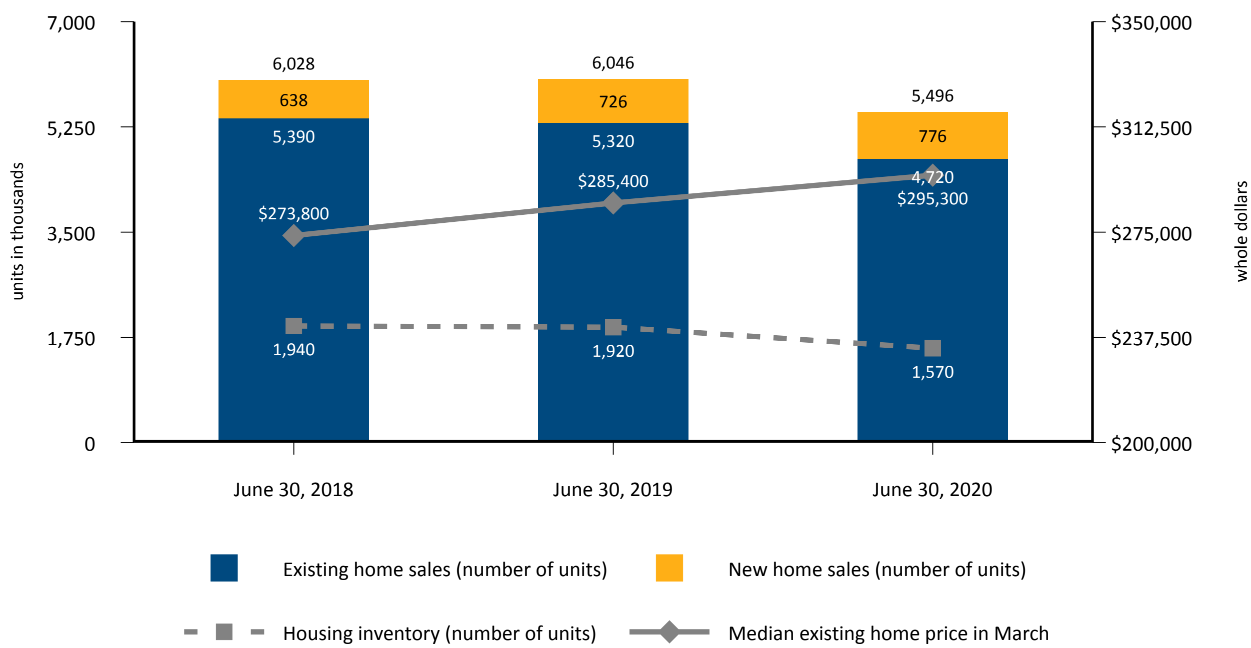
Economy and Financial Markets. The FHLBanks' overall results of operations are influenced by the economy and financial markets, and, in particular, by FHLBank members' demand for advances and the FHLBanks' ability to maintain sufficient access to diverse sources of funding at relatively favorable costs. The FHLBanks' flexibility in utilizing various funding tools, in combination with their diverse investor base and their status as GSEs, have helped ensure reliable market access and demand for consolidated obligations throughout fluctuating market environments and regulatory changes affecting dealers of and investors in consolidated obligations.

Due to the emergence of the COVID-19 pandemic, conditions in the financial markets deteriorated significantly beginning in late February and into March 2020. In response, the Federal Reserve undertook a number of emergency actions in March 2020 to, among other things, help facilitate liquidity and support stability in the fixed-income markets while volatility across global capital markets dramatically increased. Notably, the Federal Reserve substantially increased its provision of liquidity to the repo and U.S. Treasury markets via open market operations while also providing liquidity to related markets, such as the commercial paper market, via an array of new programs, as part of its commitment to using its full range of tools to support households, businesses, and the U.S. economy overall in this challenging time. The Federal Reserve has since extended through December 31, 2020, its emergency lending facilities that were scheduled to expire on or around September 30, 2020. See *Interest Rate Levels and Volatility* for additional information.

In July 2020, the Bureau of Labor Statistics (BLS) reported that the U.S. unemployment rate was 11.1% in June 2020, compared to 4.4% in March 2020, and 3.7% in June 2019. In August 2020, the BLS reported that the U.S. unemployment rate had decreased to 10.2% in July 2020. Due to the effects of the COVID-19 pandemic on the economy, the unemployment rate is expected to remain elevated and may increase in the coming months if business reopenings are delayed or rolled back. U.S. real gross domestic product decreased at an annual rate of 32.9% in the second quarter of 2020 (advance estimate) and decreased at an annual rate of 5.0% in the first quarter of 2020, according to the Bureau of Economic Analysis, compared to an increase at an annual rate of 2.1% in the fourth quarter of 2019. The decline in the first half of 2020 was attributed largely to the effects of the COVID-19 pandemic on the U.S. economy.

Conditions in U.S. Housing Markets. Conditions in the U.S. housing markets primarily affect the FHLBanks through the creation of demand for, and yield on, advances and mortgage loans, as well as the yield on investments in mortgage-backed securities (MBS). Figure 1 presents U.S. home sales, inventory, and prices. The seasonally adjusted annual rate of U.S. home sales declined in June 2020, compared to June 2019 and 2018, but new home sales were strong, driven by low mortgage interest rates. However, low housing inventory levels and higher home prices in the second quarter of 2020 continued to constrain sales growth. Beginning in March 2020, the impact of the COVID-19 pandemic significantly affected the U.S. housing markets and is likely to result in further declines in home inventory and sales in the near term. Business closures and the resulting unemployment have caused many homeowners to seek relief from their mortgage payments. Although the federal government has enacted several financial relief programs to help offset declines in business and family incomes, many of these programs are temporary and will expire if not extended by further congressional action. Forbearances and delinquencies of mortgage loans may continue to rise due to high unemployment and the expiration of the relief programs implemented in response to the COVID-19 pandemic.

Figure 1 - U.S. Home Sales, Inventory, and Prices



Source: National Association of REALTORS® for existing home sales, housing inventory, and median existing home price.
Source: U.S. Census Bureau and the Department of Housing and Urban Development for new home sales.

Interest Rate Levels and Volatility. The level and volatility of interest rates affect FHLBank member demand for advances. In addition, credit spreads and the shape of the yield curve affect investor demand for consolidated obligations. These factors also impact the FHLBanks' combined results of operations, primarily affecting net interest income and the valuation of certain assets and liabilities.

The level and volatility of interest rates and credit spreads were affected by several factors during the six months ended June 30, 2020, principally the COVID-19 pandemic and efforts in response by the Federal Reserve to lower interest rates and facilitate liquidity. Overall economic conditions and financial regulation also continue to be influencing factors.

In early March 2020, the Federal Open Market Committee stated that the COVID-19 outbreak poses evolving risks to economic activity and in an unscheduled meeting decided to lower the federal funds rate by 50 basis points, to a target range of 1.00% to 1.25%, noting that it would closely monitor developments and their implications for the economic outlook and will act as appropriate to support the economy. On March 15, 2020, the Federal Open Market Committee again lowered the federal funds rate in an unscheduled meeting, to a target range of 0.0% to 0.25%, 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. In the weeks before and after the Federal Reserve's early March cuts in the federal funds target rate, interest rates decreased significantly, and have remained low. Generally, investor demand for high credit quality, fixed-income investments, including the FHLBanks' consolidated obligations, has remained strong, with market participants favoring shorter-term obligations. The FHLBanks continued to meet their funding needs during the six months ended June 30, 2020.

In late March 2020, the Federal Reserve stated that it would take further actions to support the flow of credit to households and businesses by addressing strains in the markets for Treasury securities and agency MBS. In addition, the Federal Reserve stated that it will continue to purchase Treasury securities and agency MBS in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions. The Federal Reserve further expanded support of the financial market by beginning to purchase exchange-traded funds in May 2020 and corporate debt securities in June 2020. In its July 2020 meeting, the Federal Open Market Committee stated that the path of the U.S. economy will depend significantly on the course of the virus and voted to maintain the target range of the federal funds rate at 0.0% to 0.25%.

Table 1 presents the quarterly averages and period-end rates for certain key interest rates. The three-month and six-month average interest rates were significantly lower during 2020, compared to 2019, impacting the FHLBanks' combined results of operations, primarily by decreasing both interest income and interest expense. In addition, at June 30, 2020, both short- and long-term interest rates were significantly lower than at December 31, 2019, which affected the fair values of certain assets and liabilities. The prevailing expectation of prolonged low interest rates will likely continue to be a significant factor driving the FHLBanks' results of operations and financial condition.

Table 1 - Key Interest Rates

	Three-Month Average		Six-Month Average		Period End	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019	June 30, 2020	December 31, 2019
Federal Funds Effective	0.06%	2.40%	0.64%	2.40%	0.08%	1.55%
Secured Overnight Financing Rate	0.05%	2.43%	0.63%	2.43%	0.10%	1.55%
Overnight LIBOR	0.07%	2.37%	0.65%	2.38%	0.08%	1.54%
1-week Overnight Indexed Swap	0.06%	2.39%	0.63%	2.40%	0.07%	1.55%
3-month LIBOR	0.60%	2.51%	1.07%	2.60%	0.30%	1.91%
3-month U.S. Treasury yield	0.13%	2.34%	0.62%	2.38%	0.14%	1.55%
2-year U.S. Treasury yield	0.19%	2.14%	0.64%	2.31%	0.15%	1.57%
10-year U.S. Treasury yield	0.68%	2.34%	1.03%	2.49%	0.66%	1.92%

Source: Bloomberg

Table 2 presents the average funding spreads of newly-issued consolidated obligations relative to three-month LIBOR and three-month Treasury rates. For the three and six months ended June 30, 2020, the cost of newly-issued intermediate and long-term consolidated obligations generally increased and the cost of newly-issued short-term consolidated obligations generally decreased, as measured by the average indicative spreads to three-month LIBOR, compared to the three and six months ended June 30, 2019. Similarly, the cost of newly-issued intermediate- and long-term consolidated obligations, as measured by average indicative spreads to three-month Treasury rates, increased for the three and six months ended June 30, 2020, compared to the three and six months ended June 30, 2019. However, the cost of newly-issued short-term consolidated obligations during the three and six months ended June 30, 2020, was little changed, as measured by average indicative spreads to three-month Treasury rates, compared to the three and six months ended June 30, 2019.

Table 2 - Funding Spreads to Three-Month LIBOR and Three-Month Treasury Rates
(in basis points)

	Three-Month Average		Six-Month Average		Ending Spread	
Borrowing Term	**June 30, 2020**	**June 30, 2019**	**June 30, 2020**	**June 30, 2019**	**June 30, 2020**	**December 31, 2019**
LIBOR						
3-months	(44.7)	(15.0)	(40.0)	(19.5)	(14.7)	(32.7)
2-years	(1.7)	(0.8)	1.5	(3.6)	1.5	(7.4)
5-years	19.0	7.5	18.2	7.3	15.7	2.4
10-years	58.8	38.2	53.5	39.6	42.6	28.7
Treasury						
3-months	2.9	4.6	5.6	4.7	1.0	5.1
2-years	10.0	6.2	11.2	5.7	8.0	3.6
5-years	25.0	9.2	22.7	11.6	18.9	5.2
10-years	60.0	35.4	52.3	39.2	41.0	26.0

Source: Funding spreads are derived using Office of Finance indications compared to LIBOR and Treasury rates

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced that after 2021 it will no longer persuade or compel banks to submit rates for the calculation of LIBOR. In response, the Federal Reserve Board and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee to identify a set of alternative reference interest rates for possible use as market benchmarks. This committee has proposed the Secured Overnight Financing Rate (SOFR) as its recommended alternative to U.S. dollar LIBOR, and the Federal Reserve Bank of New York began publishing SOFR rates in the second quarter of 2018. (See *Risk Factors - Business Risk - Legislative and Regulatory* on pages 22 to 24 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, and *Quantitative and Qualitative Disclosures about Market Risk* for more information on the transition from LIBOR and the use of SOFR as an alternative market benchmark.)

Legislative and Regulatory Environment. Potential legislative and regulatory changes, as well as other rules and regulations issued by the FHFA, could adversely affect the FHLBanks, FHLBank members, counterparties, and dealers of and investors in consolidated obligations. The FHLBanks' business operations, funding costs, rights, obligations, and the environment in which the FHLBanks carry out their mission could be significantly affected by these changes. (See *Legislative and Regulatory Developments* for more information.)

FHLBanks' Financial Highlights

Combined Financial Condition. Total assets were $992.3 billion at June 30, 2020, a decrease of 9.7% from $1,099.1 billion at December 31, 2019.

- Advances totaled $557.5 billion at June 30, 2020, a decrease of 13.1% from $641.5 billion at December 31, 2019, and a decrease of 30.9% from $806.9 billion at March 31, 2020. The decrease in advances at June 30, 2020, compared to December 31, 2019, was comprised primarily of a decrease in short-term advances. During the first quarter of 2020, advances grew significantly as members sought additional liquidity amid the uncertainty in the financial markets due to the COVID-19 pandemic. During the second quarter of 2020, advances decreased due to increased liquidity in the financial markets and as short-term advances issued during the first quarter of 2020 matured. Commercial banks represented the largest segment of borrowers with 52.3% of the total principal amount of advances outstanding at June 30, 2020, compared to 59.0% at December 31, 2019. The top 10 advance holding company borrowers represented 28.9% of the total principal amount of advances outstanding at June 30, 2020, compared to 29.9% at December 31, 2019. The FHLBanks protect against credit risk on advances by collateralizing all advances. At June 30, 2020, each FHLBank had rights to collateral with an estimated value greater than the related outstanding advances.

- Investments declined to $351.0 billion at June 30, 2020, a decrease of 6.4% from $375.0 billion at December 31, 2019, driven by a decrease in securities purchased under agreements to resell, partially offset by an increase in U.S. Treasury obligations classified as trading securities. The FHLBanks maintain investment portfolios to provide funds to meet the credit needs of their members, maintain liquidity, and earn interest income.

- Mortgage loans held for portfolio, net, were $72.9 billion at June 30, 2020, an increase of 0.6% from $72.5 billion at December 31, 2019, as growth in the portfolio was tempered by higher borrower prepayments in the low interest-rate environment. An FHLBank may purchase mortgage loans to support the FHLBanks' housing mission, provide an additional source of liquidity to its members, diversify its investments, and generate additional earnings.

Total liabilities were $939.8 billion at June 30, 2020, a decrease of 10.0% compared to $1,043.7 billion at December 31, 2019.

- Consolidated obligations totaled $917.9 billion at June 30, 2020, a decrease of 10.6% from $1,026.2 billion at December 31, 2019, and a decrease of 22.0% from $1,176.4 billion at March 31, 2020. These decreases were in line with the decrease in total assets, principally resulting from the decrease in advances. The decrease in consolidated obligations at June 30, 2020, compared to December 31, 2019, was comprised primarily of a 15.4% decrease in consolidated bonds. Consolidated obligations are the principal funding source used by the FHLBanks to make advances and to purchase mortgage loans and investments.

Total GAAP capital was $52.5 billion at June 30, 2020, a decrease of 5.3% from $55.4 billion at December 31, 2019. The GAAP capital-to-assets ratio was 5.29% and the regulatory capital-to-assets ratio was 5.48% at June 30, 2020, compared to 5.04% and 5.14% at December 31, 2019. Each FHLBank was in compliance with FHFA regulatory capital requirements at June 30, 2020.

- Retained earnings grew to $21.2 billion at June 30, 2020, an increase of 3.0% from $20.6 billion at December 31, 2019, resulting from net income of $1,309 million, partially offset by dividends of $860 million.

- Capital stock was $32.1 billion at June 30, 2020, a decrease of 7.0% from $34.5 billion at December 31, 2019, due to the reclassification of capital stock to mandatorily redeemable capital stock and the net repurchases and redemptions of activity-based capital stock driven by the decrease in advances.

Combined Results of Operations. Net income was $682 million for the three months ended June 30, 2020, a decrease of $27 million, or 3.8%, compared to the three months ended June 30, 2019, resulting from net losses in non-interest income and an increase in non-interest expense, partially offset by an increase in net interest income after provision for credit losses. Net income was $1,309 million for the six months ended June 30, 2020, a decrease of $300 million, or 18.6%, compared to the six months ended June 30, 2019, resulting primarily from a decrease in net interest income after provision for credit losses and an increase in non-interest expense.

Net interest income after provision for credit losses was $1,240 million for the three months ended June 30, 2020, an increase of $137 million, or 12.4%, compared to the three months ended June 30, 2019. Net interest margin was 0.45% for the three months ended June 30, 2020, an increase of 4 basis points compared to the three months ended June 30, 2019. Net interest income after provision for credit losses was $2,112 million for the six months ended June 30, 2020, a decrease of $264 million, or 11.1%, compared to the six months ended June 30, 2019. Net interest margin was 0.39% for the six months ended June 30, 2020, a decrease of 5 basis points compared to the six months ended June 30, 2019. Both interest income and interest expense were significantly lower for the three and six months ended June 30, 2020, compared to the three and six months ended June 30, 2019, driven by the lower interest-rate environment resulting from the COVID-19 pandemic.

Non-interest income was a loss of $79 million for the three months ended June 30, 2020, a decrease of $112 million compared to a gain of $33 million for the three months ended June 30, 2019, due primarily to net losses on U.S. Treasury obligations classified as trading investment securities, partially offset by lower net losses on derivatives and hedging activities. Non-interest income was $113 million for the six months ended June 30, 2020, an increase of $17 million compared to the six months ended June 30, 2019, due primarily to higher net gains on U.S. Treasury obligations classified as trading investment securities, partially offset by higher net losses on derivatives and hedging activities.

Non-interest expense was $402 million and $767 million for the three and six months ended June 30, 2020, increases of $56 million and $87 million, or 16.2% and 12.8%, compared to the three and six months ended June 30, 2019.

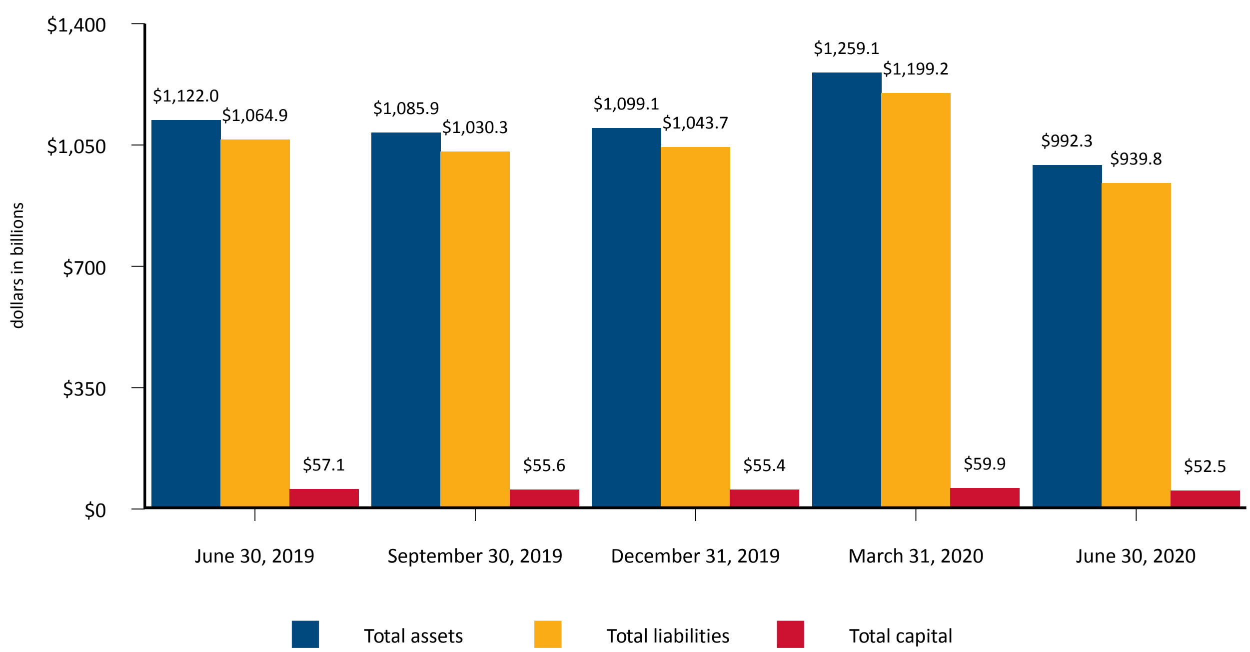
Affordable Housing Program (AHP) assessments result from individual FHLBank income subject to assessment. AHP assessments were $77 million and $149 million for the three and six months ended June 30, 2020, decreases of $4 million and $34 million, or 4.9% and 18.6%, compared to the three and six months ended June 30, 2019.

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

Combined Financial Condition

The FHLBanks' asset composition includes cash and due from banks, investments, advances, mortgage loans held for portfolio, and other assets. The FHLBanks' liability composition includes deposits, consolidated discount notes, consolidated bonds, mandatorily redeemable capital stock, and other liabilities. The FHLBanks' capital composition includes capital stock, retained earnings, and accumulated other comprehensive income (loss) (AOCI). Figure 2 presents the total assets, liabilities, and capital for the most recent five quarters.

Figure 2 - Total Assets, Liabilities, and Capital



Figures 3 and 4 present the total assets and total liabilities and capital composition at June 30, 2020.

Figure 3 - Total Assets
(dollars in billions)

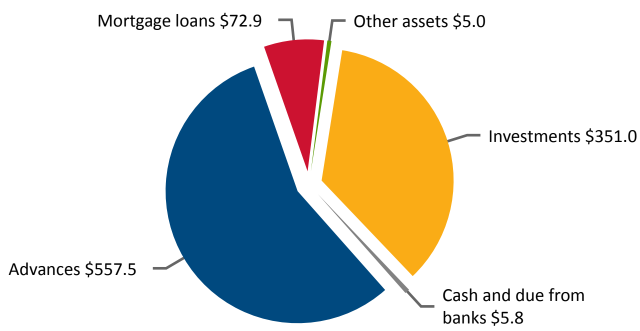
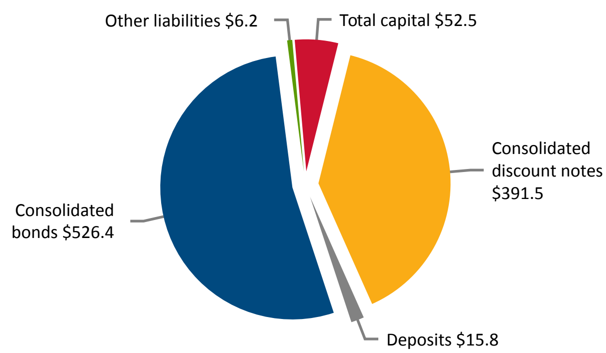


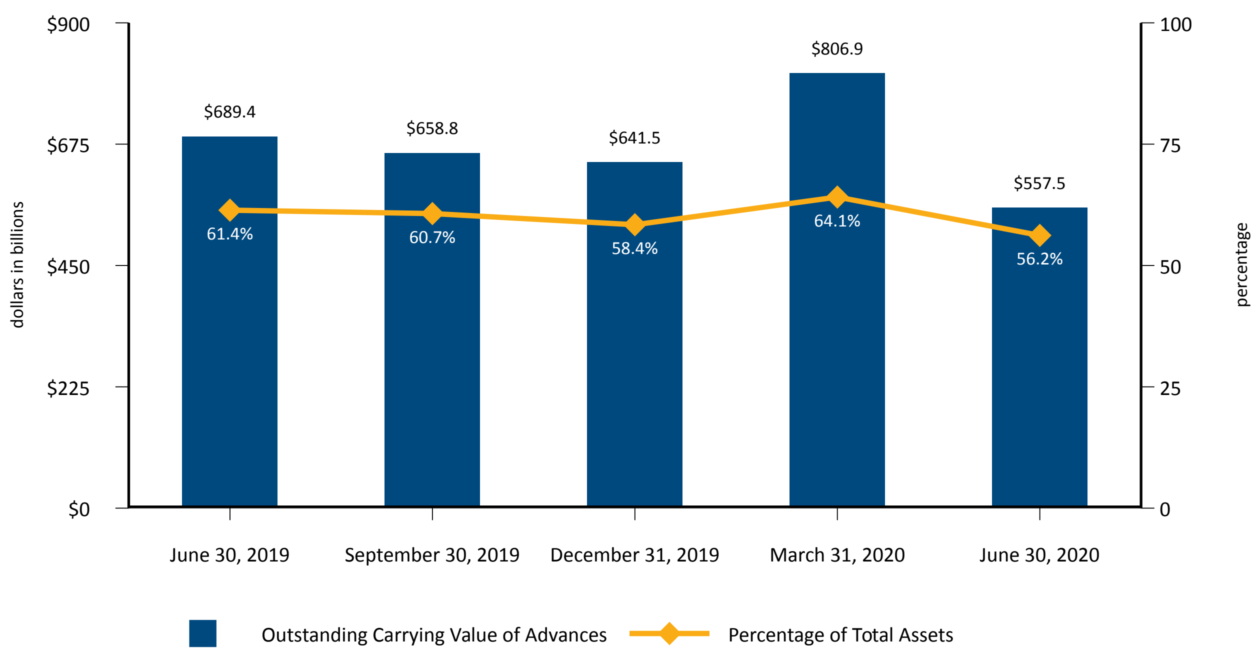
Figure 4 - Total Liabilities and Capital
(dollars in billions)



Advances

The FHLBanks provide funding to members and housing associates through secured loans (advances), which may be used for residential mortgages, community investments, and other services for housing and community development. Each FHLBank makes advances based on the security of mortgage loans and other types of eligible collateral pledged by, and the creditworthiness and financial condition of, the borrowing institutions. Figure 5 presents advances for the most recent five quarters.

Figure 5 - Advances Outstanding (Carrying Value)



The outstanding carrying value of advances totaled $557.5 billion at June 30, 2020, a decrease of $84.0 billion, or 13.1%, from $641.5 billion at December 31, 2019, and a decrease of $249 billion, or 30.9%, from $806.9 billion at March 31, 2020. The decrease in advances at June 30, 2020, compared to December 31, 2019, was comprised primarily of a decrease in short-term advances. During the first quarter of 2020, advances grew significantly as members sought additional liquidity amid the uncertainty in the financial markets due to the COVID-19 pandemic. During the second quarter of 2020, advances decreased due to increased liquidity in the financial markets and as short-term advances issued during the first quarter of 2020 matured. Due to the COVID-19 pandemic, certain FHLBanks began offering temporary relief programs providing subsidized advances and grants, and $10.7 billion of these advances were outstanding at June 30, 2020.

The percentage of members with outstanding advances was 57.3% at June 30, 2020, compared to 52.4% at December 31, 2019. Figures 6 and 7 present the principal amount of advances by product type and by redemption term for the most recent five quarters.

Figure 6 - Advances by Product Type
(dollars in billions)

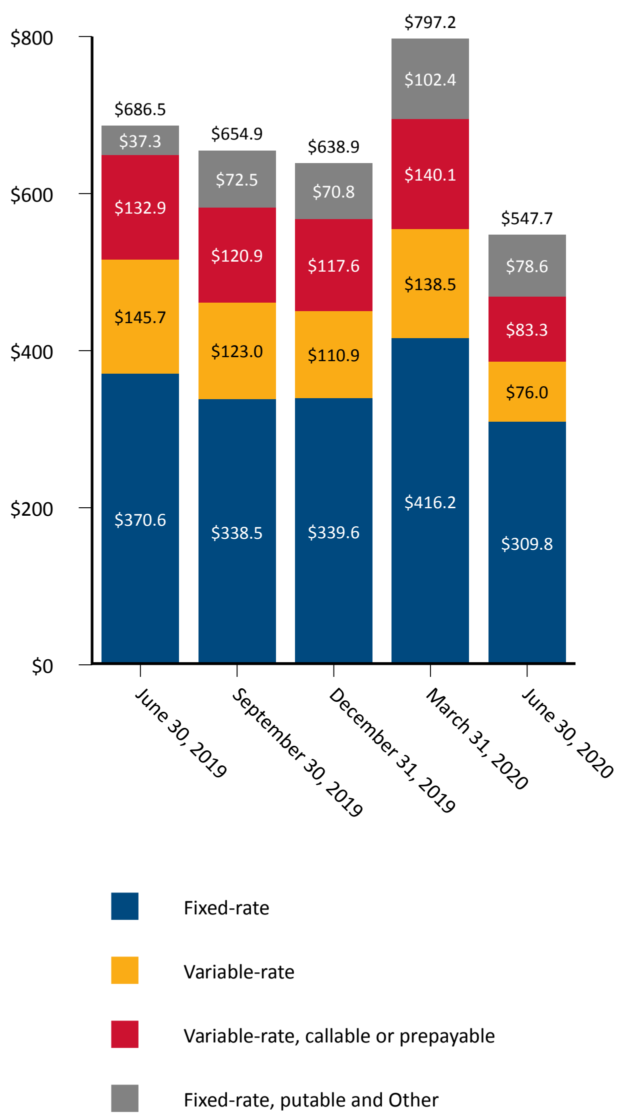


Figure 7 - Advances by Redemption Term
(dollars in billions)

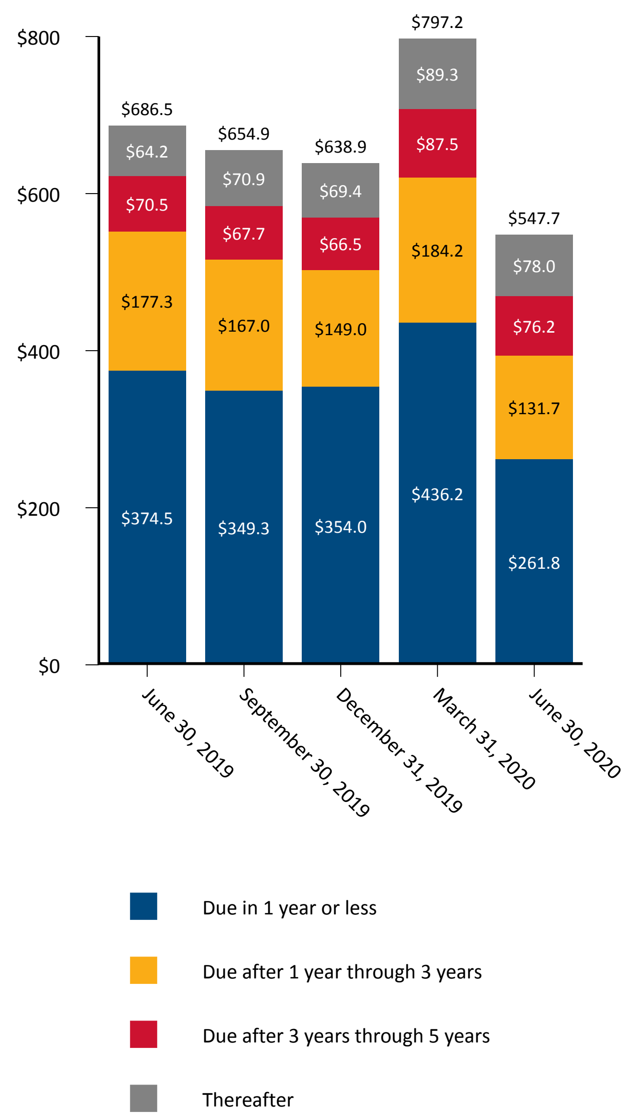


Table 3 presents advances outstanding by product type and redemption term, some of which include advances that contain embedded put or call options. A member either can sell an embedded option to an FHLBank or it can purchase an embedded option from an FHLBank. (See *Note 4 - Advances* to the accompanying combined financial statements for additional information on putable and callable advances and their potential effects on advance redemptions.)

Table 3 - Types of Advances by Redemption Term
(dollars in millions)

	June 30, 2020		December 31, 2019		Change	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Fixed-rate						
Due in 1 year or less	$ 176,706	32.3%	$ 222,447	34.8%	$ (45,741)	(20.6)%
Due after 1 year through 3 years	74,164	13.5%	73,457	11.5%	707	1.0 %
Due after 3 years through 5 years	40,872	7.5%	30,028	4.7%	10,844	36.1 %
Thereafter	18,045	3.3%	13,626	2.1%	4,419	32.4 %
Total principal amount	309,787	56.6%	339,558	53.1%	(29,771)	(8.8)%
Fixed-rate, putable						
Due in 1 year or less	17	—	985	0.2%	(968)	(98.3)%
Due after 1 year through 3 years	2,324	0.4%	1,354	0.2%	970	71.6 %
Due after 3 years through 5 years	5,006	0.9%	5,344	0.7%	(338)	(6.3)%
Thereafter	29,957	5.5%	24,089	3.8%	5,868	24.4 %
Total principal amount	37,304	6.8%	31,772	4.9%	5,532	17.4 %
Variable-rate						
Due in 1 year or less	54,993	10.0%	88,900	13.9%	(33,907)	(38.1)%
Due after 1 year through 3 years	19,275	3.5%	19,298	3.0%	(23)	(0.1)%
Due after 3 years through 5 years	659	0.1%	1,636	0.3%	(977)	(59.7)%
Thereafter	1,031	0.2%	1,035	0.2%	(4)	(0.4)%
Total principal amount	75,958	13.8%	110,869	17.4%	(34,911)	(31.5)%
Variable-rate, callable or prepayable(1)						
Due in 1 year or less	22,609	4.1%	33,932	5.3%	(11,323)	(33.4)%
Due after 1 year through 3 years	24,645	4.5%	43,054	6.7%	(18,409)	(42.8)%
Due after 3 years through 5 years	20,536	3.8%	20,775	3.3%	(239)	(1.2)%
Thereafter	15,525	2.8%	19,861	3.1%	(4,336)	(21.8)%
Total principal amount	83,315	15.2%	117,622	18.4%	(34,307)	(29.2)%
Other(2)						
Due in 1 year or less	7,479	1.4%	7,715	1.2%	(236)	(3.1)%
Due after 1 year through 3 years	11,273	2.1%	11,867	1.9%	(594)	(5.0)%
Due after 3 years through 5 years	9,116	1.7%	8,736	1.4%	380	4.3 %
Thereafter	13,417	2.4%	10,778	1.7%	2,639	24.5 %
Total principal amount	41,285	7.6%	39,096	6.2%	2,189	5.6 %
Overdrawn and overnight deposit accounts	3	—	6	—	(3)	(50.0)%
Total principal amount advances	547,652	100.0%	638,923	100.0%	$ (91,271)	(14.3)%
Other adjustments(3)	9,895		2,596			
Total advances	$ 557,547		$ 641,519			

(1) Prepayable advances are those advances that may be contractually prepaid by the borrower on specified dates without incurring prepayment or termination fees.
(2) Includes hybrid, fixed-rate amortizing/mortgage matched, convertible, fixed-rate callable or prepayable, and other advances.
(3) Consists of hedging and fair value option valuation adjustments and unamortized premiums, discounts, and commitment fees.

Table 4 presents the principal amount of advances indexed to a variable interest rate at June 30, 2020 and December 31, 2019. (See *Quantitative and Qualitative Disclosures about Market Risk* for more information on the transition from LIBOR and the use of SOFR as an alternative market benchmark.)

Table 4 - Advances Indexed to a Variable Interest Rate(1)
(dollars in millions)

	June 30, 2020	December 31, 2019
LIBOR	$ 103,427	$ 134,481
SOFR	7,248	2,016
Other(2)	50,730	94,779
Total principal amount of advances indexed to a variable interest rate	$ 161,405	$ 231,276

(1) Includes fixed-rate advances that have cap/floor optionality linked to an interest-rate Index.
(2) Consists primarily of advances indexed to consolidated obligation yields.

Table 5 presents cash flows related to advance originations and advance repayments. During the three and six months ended June 30, 2020, advance repayments exceeded originations, resulting in lower advances outstanding. Both advance originations and advance repayments decreased during the three and six months ended June 30, 2020, compared to the three and six months ended June 30, 2019, driven by a decrease in short-term advances during the three and six months ended June 30, 2020.

Table 5 - Advance Originations and Repayments
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Advances originated	$ 823,217	$ 2,335,285	$ (1,512,068)	$ 2,903,717	$ 4,699,664	$ (1,795,947)
Advances repaid	1,072,739	2,319,625	(1,246,886)	2,995,003	4,742,648	(1,747,645)
Net change	$ (249,522)	$ 15,660		$ (91,286)	$ (42,984)	

The FHLBanks make advances primarily to their members. Table 6 presents the principal amount of advances by type of borrower and member.

Table 6 - Advances by Type of Borrower and Member
(dollars in millions)

	June 30, 2020		December 31, 2019	
	Principal Amount	Number of Members	Principal Amount	Number of Members
Commercial bank members	$ 286,284	2,481	$ 377,152	2,295
Insurance company members(1)	127,054	232	111,908	183
Savings institution members	70,802	468	81,649	452
Credit union members	50,548	625	52,258	574
Community development financial institution members	301	30	262	29
Total	534,989	3,836	623,229	3,533
Non-member borrowers	11,745		14,776	
Housing associates	918		918	
Total principal amount	$ 547,652		$ 638,923	
Total members		6,693		6,739

(1) Includes $13.2 billion and $20.4 billion of principal amount of advances outstanding to captive insurance members at June 30, 2020 and December 31, 2019.

Figures 8 and 9 present the percentage of principal amount of advances by type of borrower and percentage of member borrowers by type of member at June 30, 2020.

Figure 8 - Percentage of Principal Amount of Advances by Type of Borrower

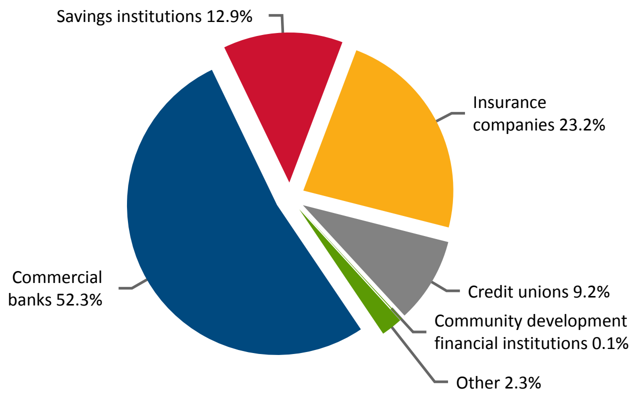


Figure 9 - Percentage of Member Borrowers by Type of Member

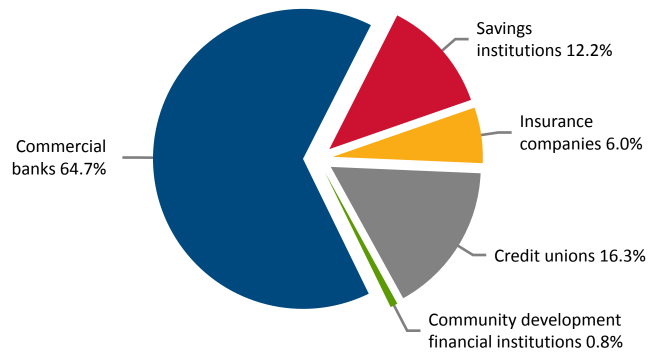


Table 7 presents the FHLBanks' top 10 advance holding borrowers at the holding-company level on a combined basis based on the principal amount of advances outstanding at June 30, 2020. The percentage of total advances for each holding company was computed by dividing the principal amount of advances by subsidiaries of that holding company by the principal amount of total combined advances. These percentage concentrations do not represent borrowing concentrations in an individual FHLBank.

Table 7 - Top 10 Advance Holding Borrowers by Holding Company at June 30, 2020
(dollars in millions)

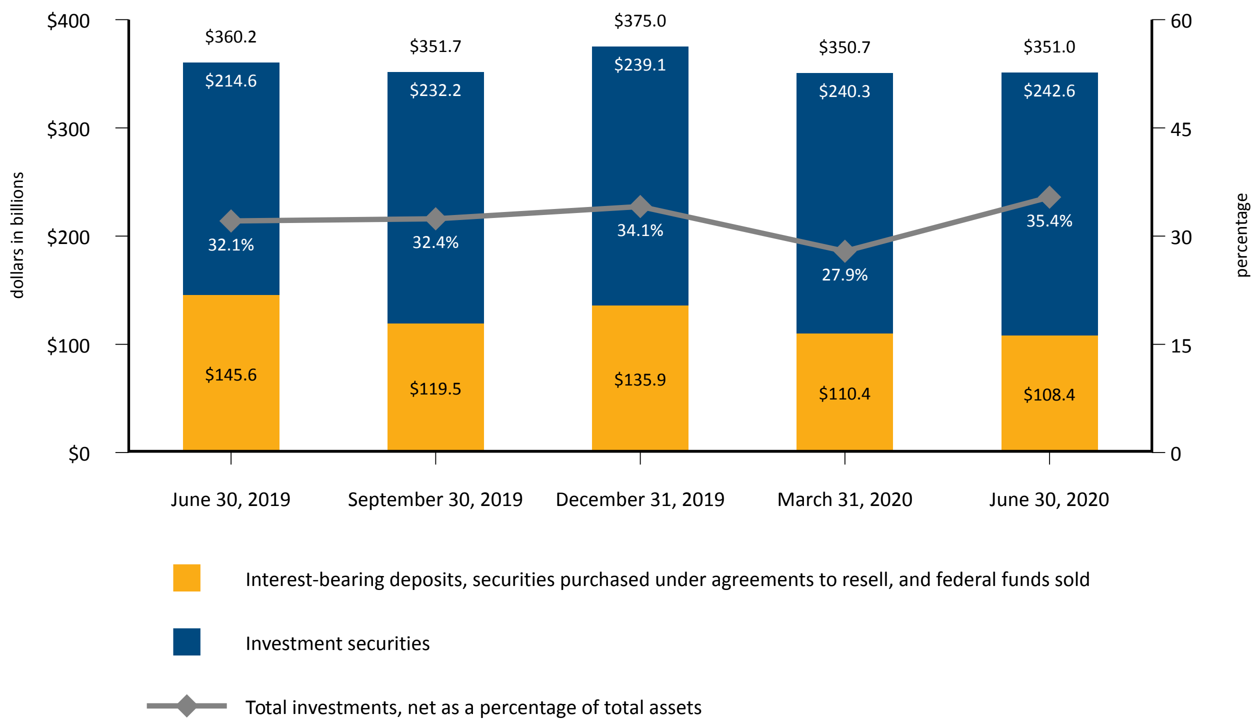
Holding Company Name(1)	FHLBank Districts(2)	Principal Amount	Percentage of Total Principal Amount of Advances
JPMorgan Chase & Co.	Cincinnati, Chicago, Pittsburgh, San Francisco, Des Moines	$ 36,104	6.6%
Citigroup Inc.	New York	26,450	4.8%
MetLife, Inc.	New York, Boston, Des Moines	17,100	3.1%
First Republic Bank	San Francisco	15,410	2.8%
New York Community Bancorp, Inc.	New York	13,553	2.5%
Ally Financial Inc.	Pittsburgh	12,600	2.3%
TIAA	Atlanta, New York	10,779	2.0%
Navy Federal Credit Union	Atlanta	9,055	1.7%
The PNC Financial Services Group, Inc.	Pittsburgh, Cincinnati, Atlanta	8,500	1.6%
Mitsubishi UFJ Financial Group, Inc.	San Francisco	8,400	1.5%
		$ 157,951	28.9%

(1) Holding company information was obtained from the Federal Reserve System's web site, the National Information Center (NIC), and SEC filings. The NIC is a central repository of data about banks and other institutions for which the Federal Reserve System has a supervisory, regulatory, or research interest, including both domestic and foreign banking organizations operating in the United States.
(2) At June 30, 2020, each holding company had subsidiaries with advance borrowings in these FHLBank districts.

Investments

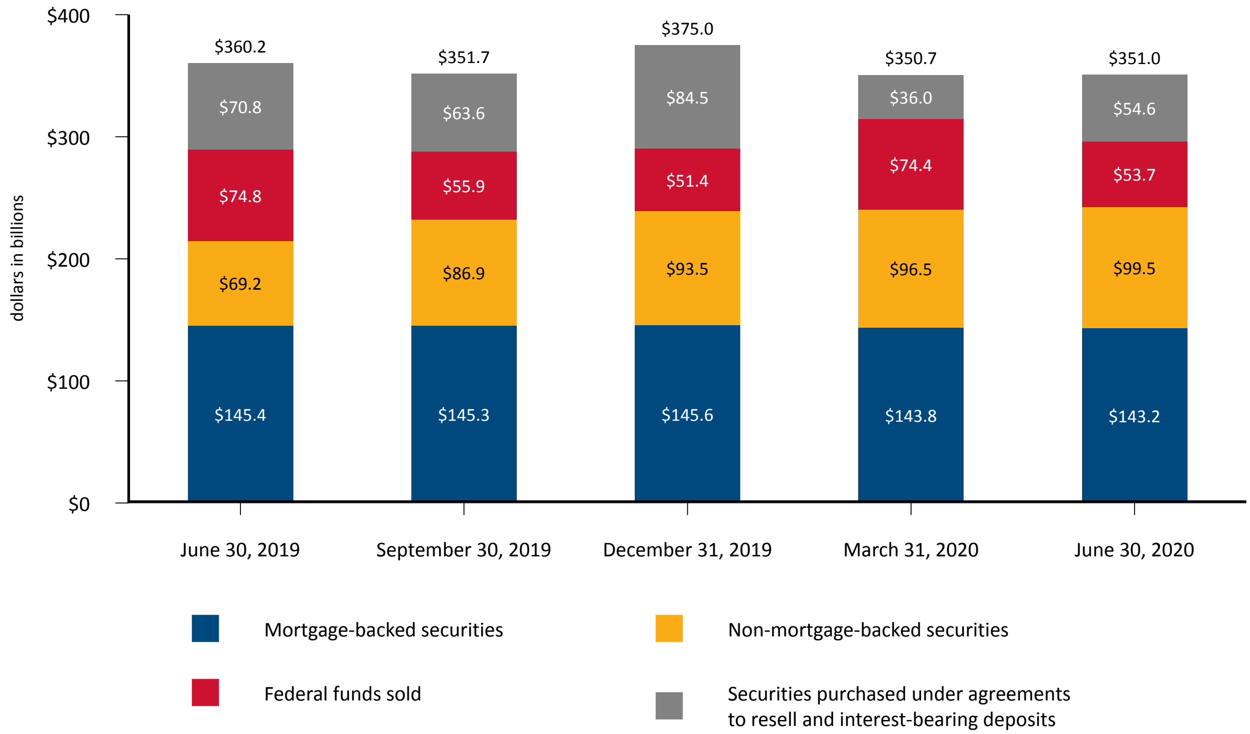
The FHLBanks maintain investment portfolios for liquidity purposes and to generate additional earnings. The income from these investment portfolios also bolsters the FHLBanks' capacity to support affordable housing and community investment. The FHLBanks invest in investment-quality securities to mitigate credit risk inherent in these portfolios. FHFA regulations prohibit the FHLBanks from investing in certain types of securities and limit the FHLBanks' investment in mortgage-backed securities (MBS) and asset-backed securities (ABS). (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Risk Management - Credit Risk - Investments* on pages 95 to 96 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for additional information regarding the regulatory restrictions on investments.) Figure 10 presents total investments for the most recent five quarters.

Figure 10 - Total Investments (Carrying Value)



Total investments, net were $351.0 billion at June 30, 2020, a decrease of $23.9 billion, or 6.4%, from $375.0 billion at December 31, 2019, driven by a decrease in securities purchased under agreements to resell, partially offset by an increase in U.S. Treasury obligations classified as trading securities. Figure 11 presents the composition of investments by product type for the most recent five quarters.

Figure 11 - Investments by Product Type (Carrying Value)



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

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

The yield earned on these short-term investments is highly correlated with short-term market interest rates. At June 30, 2020, the FHLBanks continued to maintain significant short-term investment balances as part of their ongoing investment strategy and to satisfy liquidity needs. (See *Liquidity and Capital Resources* for further discussion related to liquidity management.)

The FHLBanks maintain long-term investment portfolios as an additional source of liquidity and to earn interest income. These investments generally provide the FHLBanks with higher returns than those available on short-term investments. These portfolios may include:

- U.S. Treasury obligations;
- Other U.S. obligations;
- GSE obligations;
- Agency obligations; and
- Other MBS and ABS.

Table 8 presents the composition of investments, including investment securities, at June 30, 2020 and December 31, 2019.

Table 8 - Total Investments
(dollars in millions)

Carrying Value	June 30, 2020	December 31, 2019	Change
Interest-bearing deposits	$ 13,255	$ 14,429	$ (1,174)
Securities purchased under agreements to resell	41,514	70,094	(28,580)
Federal funds sold	53,654	51,357	2,297
Total Investment Securities by Major Security Type			
Investment securities non-mortgage-backed securities			
Certificates of deposit	—	1,410	(1,410)
U.S. Treasury obligations	68,652	60,063	8,589
Other U.S. obligations	4,844	4,559	285
GSE and Tennessee Valley Authority obligations	19,178	20,295	(1,117)
State or local housing agency obligations	2,626	2,805	(179)
Federal Family Education Loan Program ABS(1)	3,112	3,352	(240)
Other	1,050	1,015	35
Total investment securities non-mortgage-backed securities	99,462	93,499	5,963
Investment securities mortgage-backed securities(1)			
U.S. obligations single-family MBS	10,346	11,126	(780)
U.S. obligations multifamily MBS	167	284	(117)
GSE single-family MBS	31,383	34,323	(2,940)
GSE multifamily MBS	97,666	94,744	2,922
Private-label MBS(2)	3,600	5,139	(1,539)
Total investment securities mortgage-backed securities	143,162	145,616	(2,454)
Total investment securities	242,624	239,115	3,509
Total investments	$ 351,047	$ 374,995	$ (23,948)

(1) MBS and Federal Family Education Loan Program ABS are presented by contractual maturity. However, their expected maturities will likely differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment fees.
(2) Includes allowance for credit losses on available-for-sale (AFS) and held-to-maturity (HTM) private-label MBS of $31 million and $7 million at June 30, 2020.

The FHLBanks' accounting for the measurement of credit losses on investments changed on January 1, 2020, with the adoption of new accounting guidance on measurement of credit losses on financial instruments. Consistent with the modified retrospective method of adoption, the prior period has not been revised to conform to the new basis of accounting. (See *Note 1 - Summary of Significant Accounting Policies* and *Note 3 - Investments* to the accompanying combined financial statements for more information.)

The FHLBanks classify investment securities as HTM, AFS, or trading securities. The interest-rate and prepayment risks associated with these investment securities are managed through a combination of debt issuance and derivatives. (See *Note 6 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional information.) Figure 12 summarizes the interest-rate payment terms of investment securities by product type for the most recent five quarters, with trading securities presented at fair value and AFS and HTM securities presented at amortized cost.

Figure 12 - Interest-Rate Payment Terms of Investment Securities by Product Type

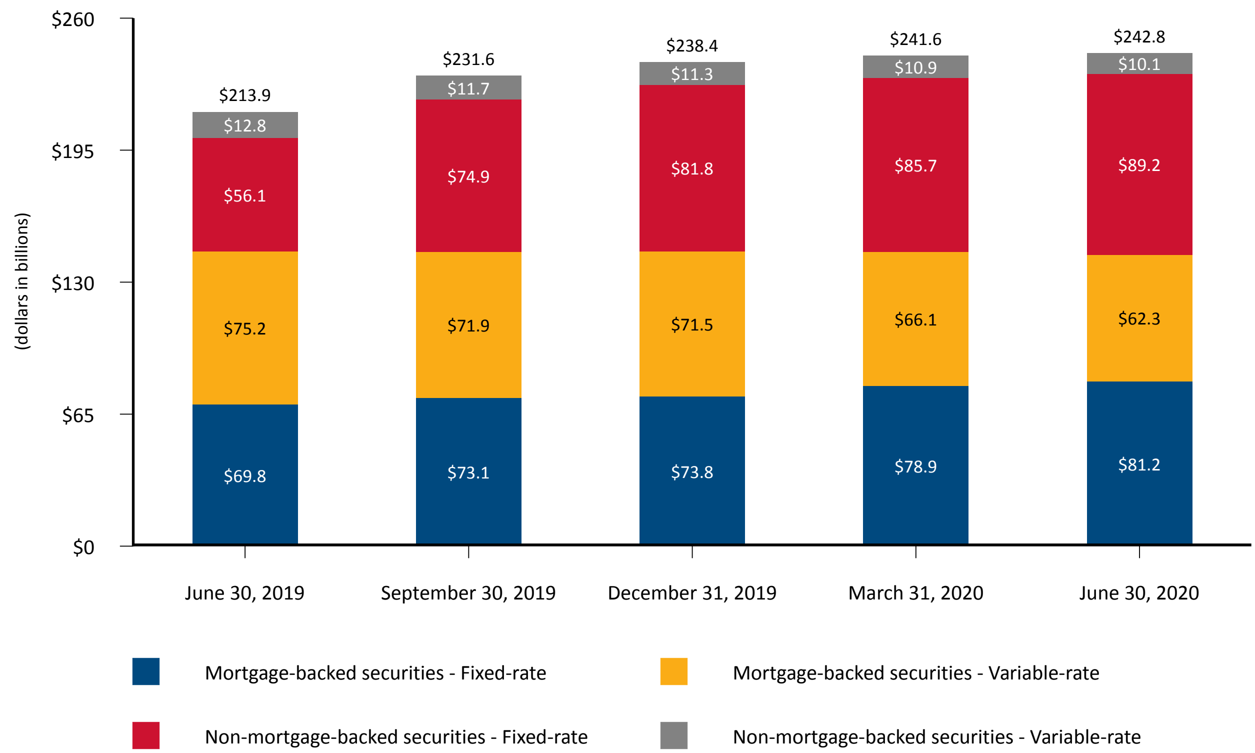


Table 9 presents the interest-rate payment terms of investment securities at June 30, 2020 and December 31, 2019.

Table 9 - Interest-Rate Payment Terms of Investment Securities
(dollars in millions)

	June 30, 2020	December 31, 2019
Trading Securities at Fair Value		
Trading non-mortgage-backed securities		
Fixed-rate	$ 59,981	$ 51,332
Variable-rate	2,219	2,217
Total trading non-mortgage-backed securities	62,200	53,549
Trading mortgage-backed securities		
Fixed-rate	1,249	1,236
Variable-rate	61	69
Total trading mortgage-backed securities	1,310	1,305
Total trading securities	$ 63,510	$ 54,854
Available-for-Sale Securities at Amortized Cost		
Available-for-sale non-mortgage-backed securities		
Fixed-rate	$ 26,760	$ 26,667
Variable-rate	4,867	5,166
Total available-for-sale non-mortgage-backed securities	31,627	31,833
Available-for-sale mortgage-backed securities		
Fixed-rate	59,120	50,687
Variable-rate	17,607	20,659
Total available-for-sale mortgage-backed securities	76,727	71,346
Total available-for-sale securities	$ 108,354	$ 103,179
Held-to-Maturity Securities at Amortized Cost		
Held-to-maturity non-mortgage-backed securities		
Fixed-rate	$ 2,410	$ 3,752
Variable-rate	3,073	4,021
Total held-to-maturity non-mortgage-backed securities	5,483	7,773
Held-to-maturity mortgage-backed securities		
Fixed-rate	20,851	21,830
Variable-rate	44,617	50,804
Total held-to-maturity mortgage-backed securities	65,468	72,634
Total held-to-maturity securities	$ 70,951	$ 80,407

Table 10 presents the principal amount of variable-rate investment securities by interest-rate index at June 30, 2020 and December 31, 2019. (See *Quantitative and Qualitative Disclosures about Market Risk* for more information on the transition from LIBOR and the use of SOFR as an alternative market benchmark.)

Table 10 - Variable-Rate Investment Securities by Interest-Rate Index
(dollars in millions)

	June 30, 2020			December 31, 2019		
	Non-mortgage-backed securities	Mortgage-backed securities	Total	Non-mortgage-backed securities	Mortgage-backed securities	Total
LIBOR	$ 7,580	$ 62,312	$ 69,892	$ 8,771	$ 71,297	$ 80,068
SOFR	75	—	75	125	—	125
Other(1)	2,492	734	3,226	2,495	948	3,443
Total principal amount of variable-rate investment securities	$ 10,147	$ 63,046	$ 73,193	$ 11,391	$ 72,245	$ 83,636

(1) Consists primarily of investments indexed to Treasury rates.

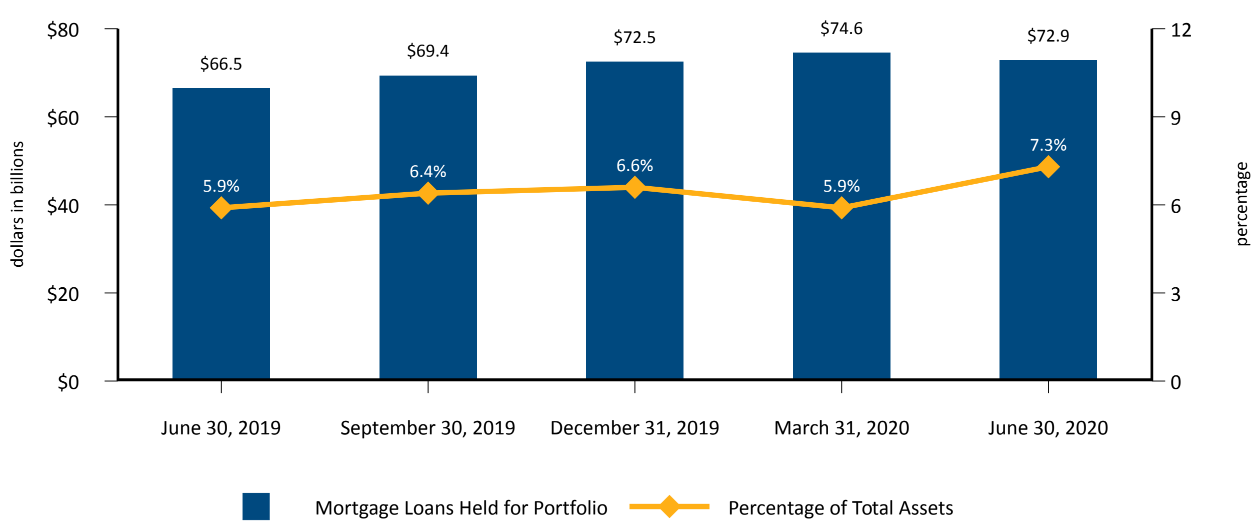
Limits on Certain Investments. FHFA regulations prohibit an FHLBank from purchasing MBS/ABS if its investment in these securities exceeds 300% of that FHLBank's previous month-end regulatory capital on the day it intends to purchase the securities. Each of the FHLBanks was in compliance with this regulatory requirement at the time of its respective securities purchases, except for certain purchases by the FHLBank of Dallas in 2019, which are discussed in the following paragraph. At June 30, 2020, each of the FHLBanks of Atlanta, Dallas, and Topeka exceeded the 300% regulatory limit and was precluded from purchasing additional MBS/ABS investments until their respective MBS/ABS to total regulatory capital percentage declined below 300%. None of these FHLBanks were required by the FHFA to sell any previously purchased securities. On a combined basis, the FHLBanks' percentage of MBS/ABS (net of regulatory excluded MBS) was 269% of total combined regulatory capital at June 30, 2020.

On August 12, 2020, the FHFA informed the FHLBank of Dallas that it had incorrectly interpreted and applied the provisions of the regulatory requirements discussed in the preceding paragraph. Based on this finding, the FHFA determined that the FHLBank of Dallas exceeded its capacity to purchase MBS in June, August, and September 2019. The FHFA has indicated that it will not require the FHLBank of Dallas to sell any of its MBS holdings as a result of this determination.

Mortgage Loans Held for Portfolio

An FHLBank may purchase fixed-rate mortgage loans to support the FHLBank's housing mission, provide an additional source of liquidity to FHLBank members, diversify its investments, and generate additional earnings. The two primary programs are the Mortgage Purchase Program (MPP) and the Mortgage Partnership Finance® Program (MPF Program). (See *Risk Management - Credit Risk - Mortgage Loans Held for Portfolio* for more information.) Figure 13 presents mortgage loans held for portfolio (designated as held for investment for accounting purposes) for the most recent five quarters.

Figure 13 - Mortgage Loans Held for Portfolio (Carrying Value)



Mortgage loans, excluding the allowance for credit losses, grew to $73.0 billion at June 30, 2020, an increase of $445 million, or 0.6%, from $72.5 billion at December 31, 2019, as growth in the portfolio was tempered by higher borrower prepayments in the low interest-rate environment. The allowance for credit losses on mortgage loans was $41 million at June 30, 2020, an increase of $25 million from $16 million at December 31, 2019, due primarily to higher expected credit losses resulting from the COVID-19 pandemic, and the change in accounting for measurement of credit losses on January 1, 2020.

Table 11 - Mortgage Loans Held for Portfolio
(dollars in millions)

	June 30, 2020	December 31, 2019	Change
Mortgage loans held for portfolio	$ 72,953	$ 72,508	$ 445
Allowance for credit losses on mortgage loans	(41)	(16)	(25)
Mortgage loans held for portfolio, net	$ 72,912	$ 72,492	$ 420

The FHLBanks' methodology for determining the allowance for credit losses on mortgage loans changed on January 1, 2020, with the adoption of new accounting guidance on measurement of credit losses on financial instruments. Consistent with the modified retrospective method of adoption, the prior period has not been revised to conform to the new basis of accounting. (See *Note 1 - Summary of Significant Accounting Policies* to the accompanying combined financial statements for more information.)

Table 12 presents the risk elements and credit losses of mortgage loans held for portfolio. Periodically, each FHLBank evaluates the allowance for credit losses for its mortgage loans based on its policies and procedures to determine if an allowance for credit losses is necessary.

Table 12 - Mortgage Loans Held for Portfolio - Risk Elements and Credit Losses
(dollars in millions)

Unpaid Principal Balance	June 30, 2020	December 31, 2019
Total past due 90 days or more and still accruing interest	$ 97	$ 78
Non-accrual loans	$ 210	$ 132
Troubled debt restructurings (TDRs), performing	$ 77	$ 78

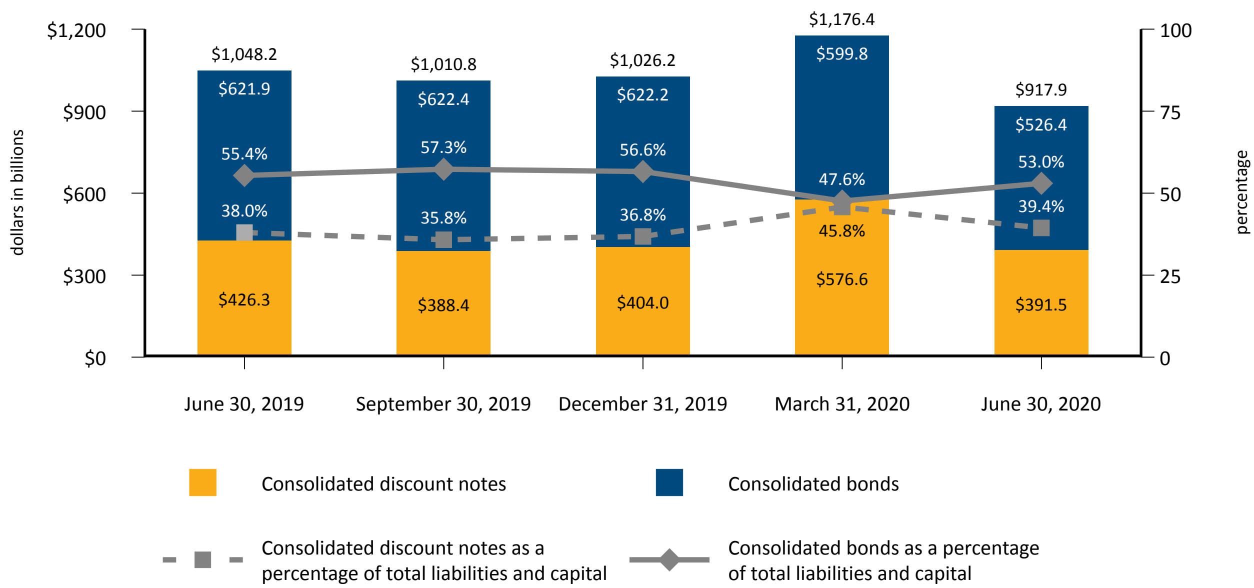
	Six Months Ended June 30, 2020	Year Ended December 31, 2019
Allowance for credit losses, beginning of period	$ 16	$ 15
Adjustment for cumulative effect of accounting change	11	—
Charge-offs, net of recoveries	(4)	(1)
Provision (reversal) for credit losses	18	2
Allowance for credit losses, end of period	$ 41	$ 16

The FHLBanks' servicers may grant a forbearance period to borrowers who have requested forbearance based on COVID-19 related difficulties regardless of the status of the loan at the time of the request. Non-accrual loans increased at June 30, 2020, due principally to the number of borrowers that were in forbearance. (See *Note 5 - Mortgage Loans* to the accompanying combined financial statements for more information.)

Consolidated Obligations

Consolidated obligations consist of consolidated bonds and consolidated discount notes, which are joint and several obligations of all FHLBanks. The FHLBanks issue consolidated obligations through the Office of Finance as their agent. Consolidated obligations are the principal funding source used by the FHLBanks to make advances and to purchase mortgage loans and investments. Figure 14 presents consolidated bonds and consolidated discount notes for the most recent five quarters.

Figure 14 - Consolidated Obligations Outstanding (Carrying Value)



The carrying value of consolidated obligations totaled $917.9 billion at June 30, 2020, a decrease of $108.3 billion, or 10.6%, from $1,026.2 billion at December 31, 2019, and a decrease of $258.5 billion, or 22.0%, from $1,176.4 billion at March 31, 2020. These decreases were in line with the decrease in total assets, principally resulting from the decrease in advances. The decrease in consolidated obligations at June 30, 2020, compared to December 31, 2019, was comprised primarily of a 15.4% decrease in consolidated bonds.

Consolidated bonds may be issued to raise short-, intermediate-, or long-term funds. Consolidated bonds are issued with either fixed-rate coupon payment terms or variable-rate coupon payment terms that are indexed to SOFR, LIBOR or other specified indices, and have maturities ranging from three months to 30 years. The carrying value of consolidated bonds was $526.4 billion at June 30, 2020, a decrease of $95.8 billion, or 15.4%, from $622.2 billion at December 31, 2019, and a decrease of $73.4 billion, or 12.2%, from $599.8 billion at March 31, 2020. Consolidated bonds represented 57.3% and 60.6% of total consolidated obligations outstanding at June 30, 2020 and December 31, 2019.

Consolidated discount notes are issued to provide short-term funding and have a maturity range of one day to one year. They are generally issued below face value and mature at face value. A significant portion of consolidated discount note activity typically results from the refinancing of maturing discount notes. The carrying value of consolidated discount notes was $391.5 billion at June 30, 2020, a decrease of $12.6 billion, or 3.1%, from $404.0 billion at December 31, 2019, and a decrease of $185.1 billion, or 32.1%, from $576.6 billion at March 31, 2020. Consolidated discount notes represented 42.7% and 39.4% of total consolidated obligations outstanding at June 30, 2020 and December 31, 2019.

Figures 15 and 16 present the principal amount of consolidated obligations by product type and by contractual maturity for the most recent five quarters.

Figure 15 - Consolidated Obligations by Product Type (dollars in billions)

Figure 16 - Consolidated Obligations by Contractual Maturity (dollars in billions)

Table 13 presents the composition of consolidated obligations by product type and by contractual maturity at June 30, 2020 and December 31, 2019.

Table 13 - Types of Consolidated Obligations by Contractual Maturity
(dollars in millions)

	June 30, 2020		December 31, 2019		Change	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Consolidated Discount Notes						
Overnight	$ 3,300	0.5%	$ 9,661	0.9%	$ (6,361)	(65.8)%
Due after 1 day through 30 days	140,412	15.3%	132,632	12.9%	7,780	5.9 %
Due after 30 days through 90 days	162,831	17.8%	208,670	20.3%	(45,839)	(22.0)%
Due after 90 days through 1 year	85,134	9.3%	53,990	5.3%	31,144	57.7 %
Total principal amount	391,677	42.9%	404,953	39.4%	(13,276)	(3.3)%
Consolidated Bonds						
Fixed-rate, non-callable						
Due in 1 year or less	63,512	6.9%	96,657	9.5%	(33,145)	(34.3)%
Due after 1 year through 3 years	58,867	6.4%	58,290	5.7%	577	1.0 %
Due after 3 years through 5 years	22,140	2.4%	22,980	2.2%	(840)	(3.7)%
Thereafter	17,657	1.9%	18,120	1.8%	(463)	(2.6)%
Total principal amount	162,176	17.6%	196,047	19.2%	(33,871)	(17.3)%
Fixed-rate, callable						
Due in 1 year or less	—	—	24,386	2.5%	(24,386)	(100.0)%
Due after 1 year through 3 years	5,850	0.6%	21,003	2.0%	(15,153)	(72.1)%
Due after 3 years through 5 years	11,309	1.2%	16,612	1.6%	(5,303)	(31.9)%
Thereafter	24,338	2.7%	26,911	2.6%	(2,573)	(9.6)%
Total principal amount	41,497	4.5%	88,912	8.7%	(47,415)	(53.3)%
Variable-rate (non-capped)						
Due in 1 year or less	290,945	31.8%	288,973	28.2%	1,972	0.7 %
Due after 1 year through 3 years	28,545	3.1%	41,055	4.0%	(12,510)	(30.5)%
Due after 3 years through 5 years	—	—	—	—	—	—
Thereafter	—	—	—	—	—	—
Total principal amount	319,490	34.9%	330,028	32.2%	(10,538)	(3.2)%
Step-up/step-down, callable						
Due in 1 year or less	—	—	125	—	(125)	(100.0)%
Due after 1 year through 3 years	45	—	1,520	0.1%	(1,475)	(97.0)%
Due after 3 years through 5 years	105	—	780	0.1%	(675)	(86.5)%
Thereafter	63	—	2,145	0.2%	(2,082)	(97.1)%
Total principal amount	213	—	4,570	0.4%	(4,357)	(95.3)%
Other						
Due in 1 year or less	205	—	235	—	(30)	(12.8)%
Due after 1 year through 3 years	495	0.1%	755	0.1%	(260)	(34.4)%
Due after 3 years through 5 years	—	—	15	—	(15)	(100.0)%
Thereafter	—	—	379	—	(379)	(100.0)%
Total principal amount	700	0.1%	1,384	0.1%	(684)	(49.4)%
Total principal amount consolidated bonds	524,076	57.1%	620,941	60.6%	(96,865)	(15.6)%
Total principal amount	915,753	100.0%	1,025,894	100.0%	$ (110,141)	(10.7)%
Other adjustments(1)	2,112		302			
Total consolidated obligations	$ 917,865		$ 1,026,196			

(1) Consists of hedging and fair value option valuation adjustments, unamortized premiums and discounts, and combining adjustments.

Table 14 presents the principal amount of variable-rate consolidated bonds by interest-rate index at June 30, 2020 and December 31, 2019. (See *Quantitative and Qualitative Disclosures about Market Risk* for more information on the transition from LIBOR and the use of SOFR as an alternative market benchmark.)

Table 14 - Variable-Rate Consolidated Bonds by Interest-Rate Index
(dollars in millions)

	June 30, 2020	December 31, 2019
SOFR	$ 189,897	$ 121,450
LIBOR	129,608	206,497
Other	50	2,550
Total principal amount of variable-rate consolidated bonds	$ 319,555	$ 330,497

Table 15 presents cash flows related to consolidated obligations, which illustrates payments exceeding proceeds for the three and six months ended June 30, 2020, resulting in lower consolidated obligations outstanding at June 30, 2020. The volume of both net proceeds and total payments of consolidated obligations decreased during the three and six months ended June 30, 2020, compared to the three and six months ended June 30, 2019, due primarily to a decrease in the issuance of discount notes driven by a decrease in short-term advance activity.

Table 15 - Net Proceeds and Payments for Consolidated Obligations
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Net proceeds from issuance of consolidated obligations						
Discount notes	$ 775,871	$ 1,656,460	$ (880,589)	$ 2,133,651	$ 3,443,713	$ (1,310,062)
Bonds	88,994	151,064	(62,070)	272,329	280,584	(8,255)
Net proceeds	864,865	1,807,524	$ (942,659)	2,405,980	3,724,297	$ (1,318,317)
Payments for maturing and retiring consolidated obligations						
Discount notes	960,509	1,637,294	$ (676,785)	2,145,872	3,443,629	$ (1,297,757)
Bonds	162,217	132,635	29,582	369,046	263,860	105,186
Total payments	1,122,726	1,769,929	$ (647,203)	2,514,918	3,707,489	$ (1,192,571)
Net change	$ (257,861)	$ 37,595		$ (108,938)	$ 16,808	

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

Table 16 presents the bond types the FHLBanks issued for their bond funding needs. The types of consolidated bonds issued can fluctuate based on comparative changes in their cost levels, supply and demand conditions, advance demand, and the FHLBanks' individual balance sheet management strategies. During the three months ended June 30, 2020, the issuance of consolidated bonds decreased compared to the three months ended June 30, 2019, in line with the decrease in demand for advances. The decrease in issuance during the three months ended June 30, 2020, compared to the three months ended June 30, 2019, was primarily due to a decrease in the issuance of variable-rate consolidated bonds. During the six months ended June 30, 2020, the issuance of both variable-rate and fixed-rate consolidated bonds was generally consistent with the issuance during the six months ended June 30, 2019.

Table 16 - Percentage of Total Consolidated Bonds Issued by Bond Type

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Single-index, variable-rate(1)	62.5%	72.7%	72.9%	71.9%
Fixed-rate, noncallable	26.3%	13.1%	14.3%	14.4%
Fixed-rate, callable	11.2%	14.0%	12.7%	13.4%
Step-up/step-down(2)	—	0.2%	0.1%	0.3%
Total	100.0%	100.0%	100.0%	100.0%

(1) Includes SOFR-linked consolidated bonds of $45.6 billion and $125.9 billion, which represented 82.0% and 63.5% of the single-index variable-rate consolidated bonds issued during the three and six months ended June 30, 2020. Includes SOFR-linked consolidated bonds of $28.9 billion and $56.4 billion, which represented 26.3% and 28.0% of the single-index variable-rate consolidated bonds issued during the three and six months ended June 30, 2019.

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

Deposits

The FHLBanks offer demand and overnight deposit programs to members and to qualifying non-members. In addition, certain FHLBanks offer short-term interest-bearing deposit programs to members, and in certain cases, to qualifying non-members. Deposits represent a relatively small portion of the FHLBanks' funding, totaling $15.8 billion at June 30, 2020, an increase of $5.4 billion, or 51.8%, from $10.4 billion at December 31, 2019. Deposit balances vary depending on market factors, such as the attractiveness of the FHLBanks' deposit pricing relative to the rates available on alternative money market instruments, FHLBank members' investment preferences with respect to the maturity of their investments, and FHLBank members' liquidity. Interest-bearing demand and overnight deposits represented 88.5% and 90.1% of deposits at June 30, 2020 and December 31, 2019, with the remaining deposits primarily being term deposits and non-interest-bearing deposits. Interest-bearing demand and overnight deposits pay interest based on a daily interest rate. Term deposits pay interest based on a fixed rate determined at the issuance of the deposit.

Capital

GAAP capital consists of capital stock, retained earnings, and accumulated other comprehensive income (loss). Figure 17 presents GAAP capital and the GAAP capital-to-assets ratio for the most recent five quarters.

Figure 17 - GAAP Capital

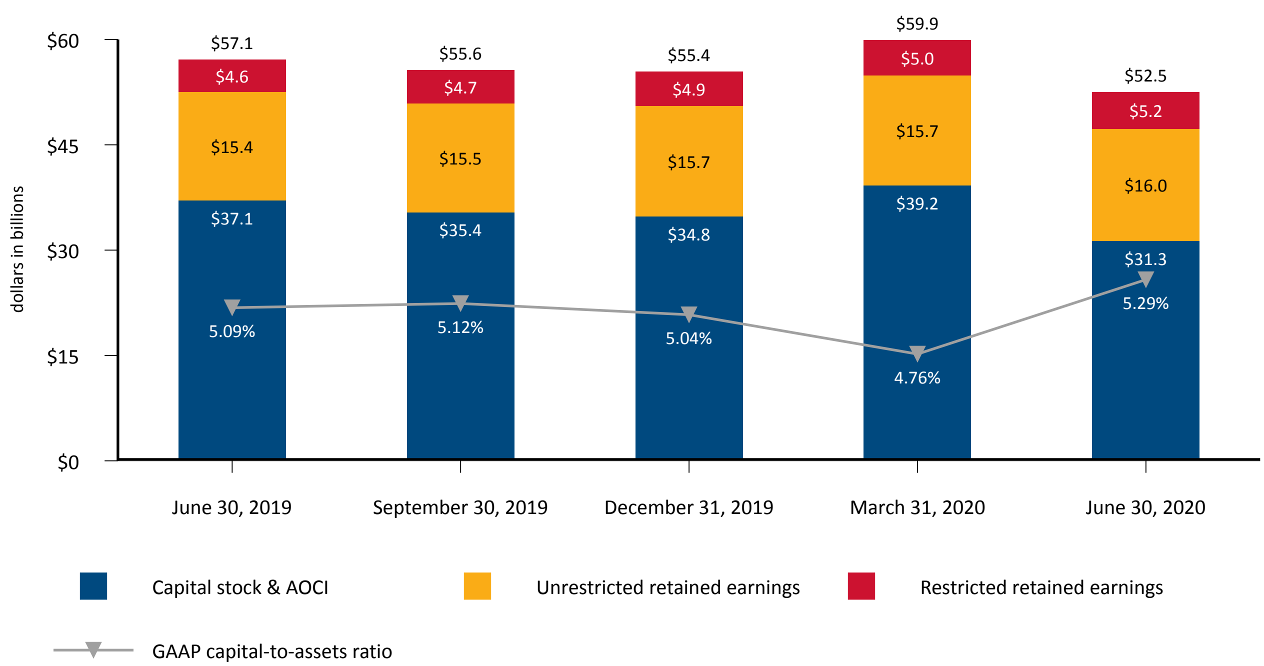


Table 17 - Total Capital and Capital-to-Assets Ratios
(dollars in millions)

	June 30, 2020	December 31, 2019	Change
Capital stock	$ 32,085	$ 34,495	$ (2,410)
Retained earnings:			
Unrestricted	16,046	15,686	360
Restricted(1)	5,163	4,902	261
Total retained earnings	21,209	20,588	621
AOCI	(795)	344	(1,139)
Total GAAP capital	52,499	55,427	(2,928)
Exclude: AOCI	795	(344)	1,139
Add: Mandatorily redeemable capital stock	1,097	1,378	(281)
Total combined regulatory capital(2)	$ 54,391	$ 56,461	$ (2,070)
Total assets	$ 992,330	$ 1,099,113	$ (106,783)
Combined GAAP capital-to-assets ratio	5.29%	5.04%	
Combined regulatory capital-to-assets ratio(3)	5.48%	5.14%	

(1) Restricted retained earnings was established through the Capital Agreement, as amended, and is intended to enhance the capital position of each FHLBank. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information about the Capital Agreement and restricted retained earnings.)
(2) Regulatory capital requirements apply to individual FHLBanks, and the combined amounts are for analysis only. The sum of the individual FHLBank regulatory capital amounts does not agree to the total combined regulatory capital due to combining adjustments.
(3) The combined regulatory capital-to-assets ratio is calculated based on the FHLBanks' combined regulatory capital as a percentage of combined total assets. (See *Note 9 - Capital* to the accompanying combined financial statements for a definition and discussion of regulatory capital.)

GAAP Capital. Total GAAP capital was $52.5 billion at June 30, 2020, a decrease of $2.9 billion, or 5.3%, from $55.4 billion at December 31, 2019, due primarily to a decrease in capital stock, as well as a decrease in AOCI. The combined GAAP capital-to-assets ratio was 5.29% at June 30, 2020, an increase of 25 basis points from 5.04% at December 31, 2019.

Capital Stock. Capital stock was $32.1 billion at June 30, 2020, a decrease of $2.4 billion, or 7.0%, from $34.5 billion at December 31, 2019, due to the reclassification of capital stock to mandatorily redeemable capital stock and the net repurchases and redemptions of activity-based capital stock driven by the decrease in advances.

Retained Earnings. Retained earnings grew to $21.2 billion at June 30, 2020, an increase of $621.0 million, or 3.0%, from $20.6 billion at December 31, 2019, resulting principally from net income of $1,309 million, partially offset by dividends of $860 million. Unrestricted retained earnings were $16.0 billion at June 30, 2020, a growth of 2.3% from $15.7 billion at December 31, 2019. Restricted retained earnings were $5.2 billion at June 30, 2020, a growth of 5.3% from $4.9 billion at December 31, 2019.

There was a partial return of capital of $200 million to the FHLBanks by the Financing Corporation in June 2020 in connection with the dissolution of the Financing Corporation. These funds have been credited to unrestricted retained earnings. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information on the partial recovery of prior capital distribution to the Financing Corporation.)

Accumulated Other Comprehensive Income (Loss). AOCI was a loss of $0.8 billion at June 30, 2020, a decrease of $1.1 billion from a gain of $0.3 billion at December 31, 2019, due principally to net unrealized losses on mortgage-backed securities classified as available-for-sale investment securities.

Figures 18 and 19 present the components of capital as a percentage of total GAAP capital at June 30, 2020 and December 31, 2019.

Figure 18 - Capital Components as a Percentage of Total GAAP Capital at June 30, 2020

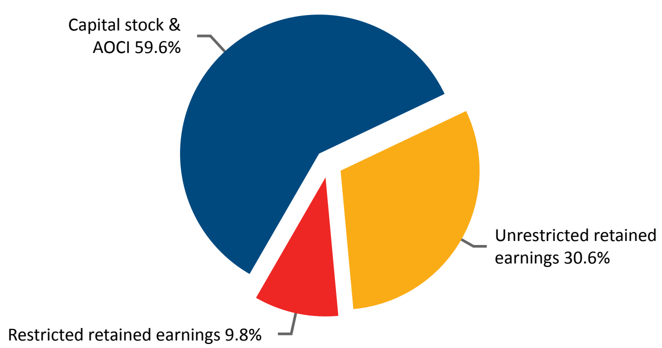
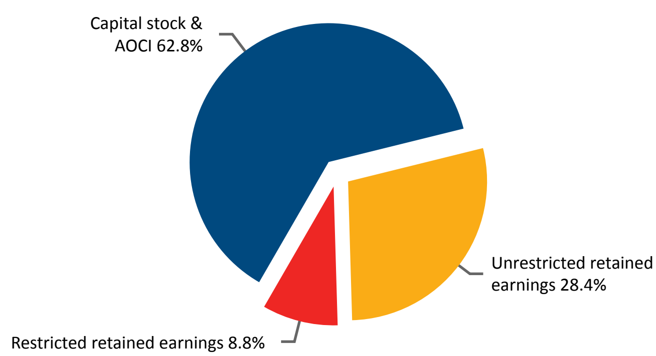


Figure 19 - Capital Components as a Percentage of Total GAAP Capital at December 31, 2019



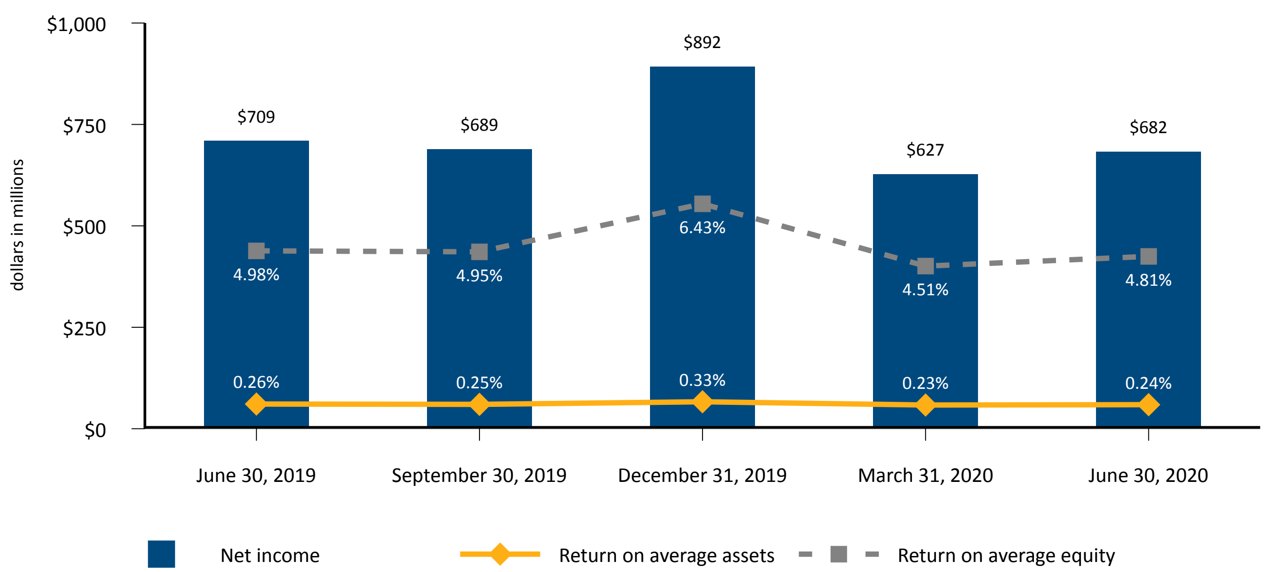
Regulatory Capital. Total combined regulatory capital was $54.4 billion at June 30, 2020, a decrease of 3.7% from $56.5 billion at December 31, 2019, due primarily to a decrease in capital stock.

Combined Results of Operations

Net Income

The primary source of each FHLBank's earnings is net interest income, which is the interest income on advances, mortgage loans, and investments, less the interest expense on consolidated obligations, deposits, and mandatorily redeemable capital stock. The expenses of the FHLBanks, other than interest expense, primarily consist of employee compensation and benefits, other operating expenses, and Affordable Housing Program assessments. The FHLBanks may also recognize non-interest gains and losses, such as gains and losses on derivatives and hedging activities and gains and losses on investment securities. Due to the FHLBanks' cooperative structure, the FHLBanks generally earn a narrow net interest spread. Accordingly, the FHLBanks' net income is relatively small compared to total assets and total liabilities. Figure 20 presents net income, return on average assets, and return on average equity for the most recent five quarters.

Figure 20 - Net Income



Net income was $682 million for the three months ended June 30, 2020, a decrease of 3.8% compared to the three months ended June 30, 2019, resulting from net losses in non-interest income and an increase in non-interest expense, partially offset by an increase in net interest income after provision for credit losses. Net income was $1,309 million for the six months ended June 30, 2020, a decrease of 18.6% compared to the six months ended June 30, 2019, primarily resulting from a decrease in net interest income after provision for credit losses and an increase in non-interest expense.

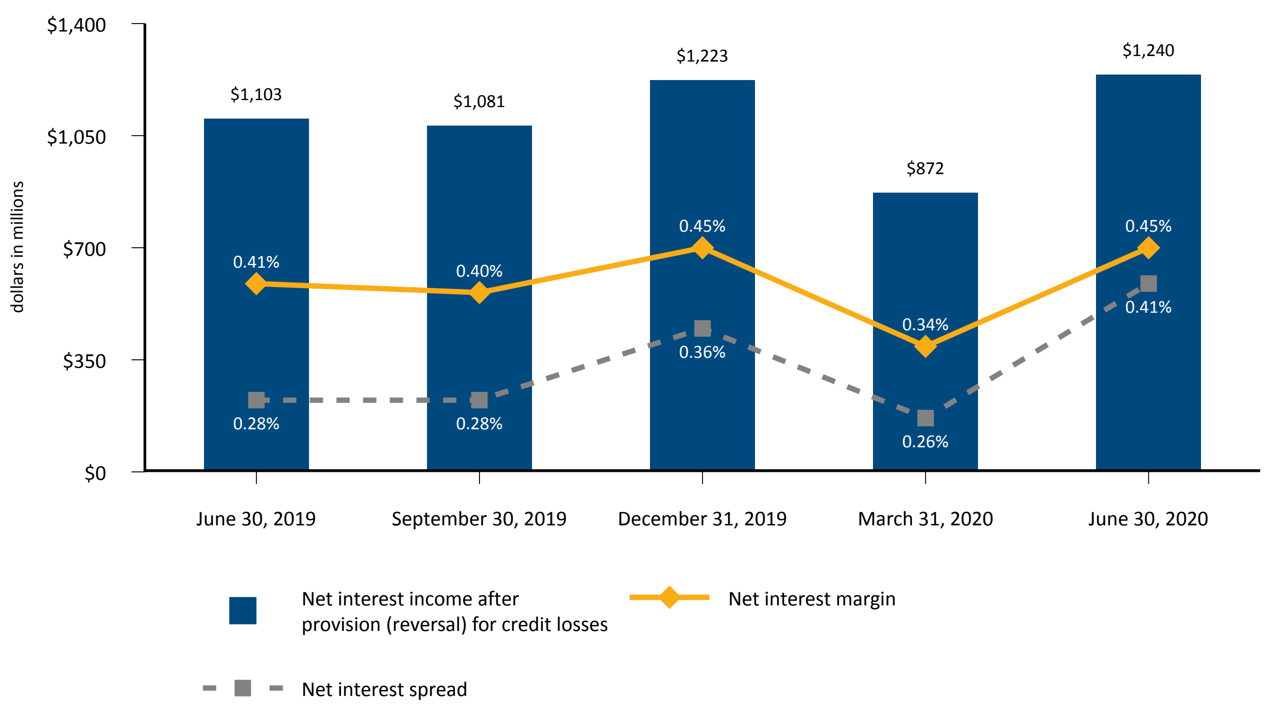
Table 18 - Changes in Net Income
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Net interest income after provision (reversal) for credit losses	$ 1,240	$ 1,103	$ 137	$ 2,112	$ 2,376	$ (264)
Non-interest income	(79)	33	(112)	113	96	17
Non-interest expense	402	346	56	767	680	87
Affordable Housing Program assessments	77	81	(4)	149	183	(34)
Net income	$ 682	$ 709	$ (27)	$ 1,309	$ 1,609	$ (300)

Net Interest Income after Provision (Reversal) for Credit Losses

The primary source of each FHLBank's earnings is net interest income, which is the interest income on advances, mortgage loans, and investments, less the interest expense on consolidated obligations, deposits, and mandatorily redeemable capital stock. Figure 21 presents net interest income after provision (reversal) for credit losses, net interest margin, and net interest spread for the most recent five quarters.

Figure 21 - Net Interest Income after Provision (Reversal) for Credit Losses



Net interest income after provision (reversal) for credit losses was $1,240 million for the three months ended June 30, 2020, an increase of 12.4% compared to the three months ended June 30, 2019. Net interest income after provision (reversal) for credit losses was $2,112 million for the six months ended June 30, 2020, a decrease of 11.1% compared to the six months ended June 30, 2019.

Table 19 - Net Interest Income after Provision (Reversal) for Credit Losses
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Interest income						
Advances	$ 1,765	$ 4,592	$ (2,827)	$ 4,657	$ 9,364	$ (4,707)
Investments and other	986	2,367	(1,381)	2,721	4,657	(1,936)
Mortgage loans held for portfolio	496	550	(54)	1,062	1,112	(50)
Total interest income	3,247	7,509	(4,262)	8,440	15,133	(6,693)
Interest expense						
Consolidated obligations - Discount notes	652	2,526	(1,874)	2,175	5,087	(2,912)
Consolidated obligations - Bonds	1,332	3,821	(2,489)	4,042	7,554	(3,512)
Total consolidated obligations	1,984	6,347	(4,363)	6,217	12,641	(6,424)
Deposits and mandatorily redeemable capital stock	15	59	(44)	60	115	(55)
Total interest expense	1,999	6,406	(4,407)	6,277	12,756	(6,479)
Net interest income	1,248	1,103	145	2,163	2,377	(214)
Provision (reversal) for credit losses	8	—	8	51	1	50
Net interest income after provision (reversal) for credit losses	$ 1,240	$ 1,103	$ 137	$ 2,112	$ 2,376	$ (264)

Provision for credit losses was $8 million and $51 million for the three and six months ended June 30, 2020, increases of $8 million and $50 million compared to the three and six months ended June 30, 2019. The provision for credit losses for the six months ended June 30, 2020, consisted primarily of a $32 million provision for credit losses on private-label MBS driven by a decline in fair values, and an $18 million provision for credit losses on mortgage loans held for portfolio due to higher expected credit losses resulting from the COVID-19 pandemic.

Table 20 presents average balances of and average yields/rates on the major categories of interest-earning assets and interest-bearing liabilities, net interest spread, and net interest margin. Due to the FHLBanks' cooperative structure, the FHLBanks generally earn a narrow net interest spread.

Table 20 - Analysis of Interest Income/Expense and Average Yield/Rate
(dollars in millions)

	Three Months Ended June 30,					
	2020			2019		
	Average Balance	Interest Income/ Expense	Average Yield/ Rate	Average Balance	Interest Income/ Expense	Average Yield/ Rate
Interest-bearing deposits and other	$ 22,253	$ 6	0.11%	$ 13,730	$ 86	2.51%
Securities purchased under agreements to resell	34,675	6	0.07%	57,223	352	2.47%
Federal funds sold	77,420	13	0.07%	69,821	425	2.44%
Investment securities(1)(2)	242,407	961	1.59%	204,198	1,504	2.95%
Advances	673,043	1,765	1.05%	681,774	4,592	2.70%
Mortgage loans(3)	74,224	496	2.69%	65,266	550	3.38%
Total interest-earning assets	1,124,022	3,247	1.16%	1,092,012	7,509	2.76%
Other non-interest-earning assets	13,399			7,010		
Fair-value adjustment on investment securities(2)	2,973			2,689		
Total assets	$ 1,140,394			$ 1,101,711		
Liabilities and Capital						
Consolidated obligations - Discount notes	$ 489,355	652	0.54%	$ 412,994	2,526	2.45%
Consolidated obligations - Bonds	566,473	1,332	0.95%	613,609	3,821	2.50%
Deposits and mandatorily redeemable capital stock	15,137	15	0.40%	8,967	59	2.64%
Total interest-bearing liabilities	1,070,965	1,999	0.75%	1,035,570	6,406	2.48%
Non-interest-bearing liabilities	12,393			9,031		
Total liabilities	1,083,358			1,044,601		
Capital	57,036			57,110		
Total liabilities and capital	$ 1,140,394			$ 1,101,711		
Net interest income		$ 1,248			$ 1,103	
Net interest spread			0.41%			0.28%
Net interest margin			0.45%			0.41%
Total interest-earning assets to total interest-bearing liabilities	104.95%			105.45%		

	Six Months Ended June 30,					
	2020			2019		
	Average Balance	Interest Income/ Expense	Average Yield/ Rate	Average Balance	Interest Income/ Expense	Average Yield/ Rate
Interest-bearing deposits and other	$ 20,958	$ 73	0.70%	$ 13,739	$ 172	2.52%
Securities purchased under agreements to resell	41,930	183	0.88%	51,905	637	2.47%
Federal funds sold	75,263	240	0.64%	72,773	884	2.45%
Investment securities(1)(2)	240,749	2,225	1.86%	197,887	2,964	3.02%
Advances	657,242	4,657	1.42%	689,716	9,364	2.74%
Mortgage loans(3)	73,957	1,062	2.89%	64,252	1,112	3.49%
Total interest-earning assets	1,110,099	8,440	1.53%	1,090,272	15,133	2.80%
Other non-interest-earning assets	10,814			6,941		
Fair-value adjustment on investment securities(2)	3,126			2,489		
Total assets	$ 1,124,039			$ 1,099,702		
Liabilities and Capital						
Consolidated obligations - Discount notes	$ 451,802	2,175	0.97%	$ 418,285	5,087	2.45%
Consolidated obligations - Bonds	590,782	4,042	1.38%	606,287	7,554	2.51%
Deposits and mandatorily redeemable capital stock	13,805	60	0.87%	8,687	115	2.67%
Total interest-bearing liabilities	1,056,389	6,277	1.19%	1,033,259	12,756	2.49%
Non-interest-bearing liabilities	11,144			9,375		
Total liabilities	1,067,533			1,042,634		
Capital	56,506			57,068		
Total liabilities and capital	$ 1,124,039			$ 1,099,702		
Net interest income		$ 2,163			$ 2,377	
Net interest spread			0.34%			0.31%
Net interest margin			0.39%			0.44%
Total interest-earning assets to total interest-bearing liabilities	105.08%			105.52%		

(1) Investment securities consist of Trading, AFS, and HTM securities.
(2) The average balances of AFS securities and HTM securities are reflected at amortized cost. (See *Note 3 - Investments* for additional information.)
(3) Non-accrual loans are included in the average balances used to determine average yield/rate.

Changes in both average interest rates and average balances of interest-earning assets and interest-bearing liabilities have a direct influence on changes in net interest income, net interest margin, and net interest spread. Table 21 presents changes in interest income and interest expense due to rate-related and volume-related factors. Changes in interest income and interest expense not identifiable as either rate-related or volume-related, but rather attributable to both rate and volume changes, have been allocated to the rate and volume categories based on the proportion of the absolute value of the rate and volume changes.

Table 21 - Rate and Volume Analysis
(dollars in millions)

	Three Months Ended June 30, 2020 vs. 2019			Six Months Ended June 30, 2020 vs. 2019		
	Volume	Rate	Total	Volume	Rate	Total
Interest Income						
Interest-bearing deposits and other	$ 33	$ (113)	$ (80)	$ 63	$ (162)	$ (99)
Securities purchased under agreements to resell	(100)	(246)	(346)	(104)	(350)	(454)
Federal funds sold	41	(453)	(412)	29	(673)	(644)
Investment securities(1)	244	(787)	(543)	552	(1,291)	(739)
Advances	(58)	(2,769)	(2,827)	(420)	(4,287)	(4,707)
Mortgage loans	69	(123)	(54)	154	(204)	(50)
Total interest income	229	(4,491)	(4,262)	274	(6,967)	(6,693)
Interest Expense						
Consolidated obligations - Discount notes	395	(2,269)	(1,874)	377	(3,289)	(2,912)
Consolidated obligations - Bonds	(274)	(2,215)	(2,489)	(189)	(3,323)	(3,512)
Deposits and mandatorily redeemable capital stock	25	(69)	(44)	46	(101)	(55)
Total interest expense	146	(4,553)	(4,407)	234	(6,713)	(6,479)
Changes in net interest income	$ 83	$ 62	$ 145	$ 40	$ (254)	$ (214)

(1) Investment securities consist of Trading, AFS, and HTM securities.

Net interest income was $1,248 million for the three months ended June 30, 2020, an increase of 13.1% compared to the three months ended June 30, 2019. Net interest margin was 0.45% for the three months ended June 30, 2020, an increase of 4 basis points compared to the three months ended June 30, 2019. Both interest income and interest expense were significantly lower for the three months ended June 30, 2020, compared to the three months ended June 30, 2019, driven by the lower interest-rate environment resulting from the COVID-19 pandemic.

- Interest income was $3,247 million for the three months ended June 30, 2020, a decrease of 56.8% compared to the three months ended June 30, 2019, resulting from lower average yields on interest-earning assets, principally advances. The average yield on interest-earning assets was 1.16% for the three months ended June 30, 2020, a decrease of 160 basis points compared to the three months ended June 30, 2019.

- Interest expense was $1,999 million for the three months ended June 30, 2020, a decrease of 68.8% compared to the three months ended June 30, 2019, resulting primarily from lower average rates on consolidated obligations. The average rate on consolidated obligations was 0.76% for the three months ended June 30, 2020, a decrease of 172 basis points compared to the three months ended June 30, 2019.

Net interest income was $2,163 million for the six months ended June 30, 2020, a decrease of 9.0% compared to the six months ended June 30, 2019. Net interest margin was 0.39% for the six months ended June 30, 2020, a decrease of 5 basis points compared to the six months ended June 30, 2019. Both interest income and interest expense were significantly lower for the six months ended June 30, 2020, compared to the six months ended June 30, 2019, driven by the lower interest-rate environment resulting from the COVID-19 pandemic.

- Interest income was $8,440 million for the six months ended June 30, 2020, a decrease of 44.2% compared to the six months ended June 30, 2019, resulting from lower average yields on interest-earning assets, principally advances. The average yield on interest-earning assets was 1.53% for the six months ended June 30, 2020, a decrease of 127 basis points compared to the six months ended June 30, 2019.

- Interest expense was $6,277 million for the six months ended June 30, 2020, a decrease of 50.8% compared to the six months ended June 30, 2019, resulting primarily from lower average rates on consolidated obligations. The average rate on consolidated obligations was 1.20% for the six months ended June 30, 2020, a decrease of 129 basis points compared to the six months ended June 30, 2019.

Factors Affecting Net Interest Income

Advances. Interest income on advances was $1,765 million and $4,657 million for the three and six months ended June 30, 2020, decreases of 61.6% and 50.3% compared to the three and six months ended June 30, 2019, resulting primarily from decreases in the average yields on advances. The average yield on advances was 1.05% and 1.42% for the three and six months ended June 30, 2020, decreases of 165 and 132 basis points compared to the three and six months ended June 30, 2019. The decreases in the average yields on advances were the result of lower interest rates on advances driven by the lower interest-rate environment, including the effect of derivatives and hedging activities on interest income from advances, and the runoff of higher-yielding advances and replacement of these advances in the lower interest-rate environment, partially offset by an increase in prepayment fees on advances. (See *Table 22* for additional information regarding the effect of derivatives and hedging activities on net interest income.)

Mortgage Loans. Interest income on mortgage loans was $496 million and $1,062 million for the three and six months ended June 30, 2020, decreases of 9.8% and 4.5% compared to the three and six months ended June 30, 2019, resulting primarily from decreases in the average yields on mortgage loans, partially offset by increases in the average balances of mortgage loans. The average yield on mortgage loans was 2.69% and 2.89% for the three and six months ended June 30, 2020, decreases of 69 and 60 basis points compared to the three and six months ended June 30, 2019. The decreases in the average yields on mortgage loans were the result of lower interest rates on mortgage loans driven by the lower interest-rate environment, and the acceleration of amortization of premiums on mortgage loans due to higher prepayments. The average balance of mortgage loans was $74.2 billion and $74.0 billion for the three and six months ended June 30, 2020, increases of 13.7% and 15.1% compared to the three and six months ended June 30, 2019, as the FHLBanks grew their mortgage loan portfolios year over year.

Total Investments. Interest income on investments was $986 million and $2,721 million for the three and six months ended June 30, 2020, decreases of 58.3% and 41.6% compared to the three and six months ended June 30, 2019, resulting primarily from decreases in the average yields on investments, partially offset by increases in the average balance of investment securities. The average yield on investments was 1.05% and 1.44% for the three and six months ended June 30, 2020, decreases of 170 and 135 basis points compared to the three and six months ended June 30, 2019. The decreases in the average yields on investments were the result of lower interest rates on investments driven by the lower interest-rate environment, the runoff of higher-yielding investments and replacement of these investments in the lower interest-rate environment, including a decrease in the yields on short-term investments funded by member capital and short-term debt, and the acceleration of amortization of premiums on MBS due to higher prepayments. The average balance of investment securities was $242.4 billion and $240.7 billion for the three and six months ended June 30, 2020, increases of 18.7% and 21.7% compared to the three and six months ended June 30, 2019, driven by increases in liquidity investments, primarily the average balance of U.S. Treasury obligations classified as trading securities. (See *Financial Discussion and Analysis - Liquidity and Capital Resources* for more discussion regarding the FHLBanks' liquidity requirements.)

Consolidated Obligations. Interest expense on consolidated obligations was $1,984 million and $6,217 million for the three and six months ended June 30, 2020, decreases of 68.7% and 50.8% compared to the three and six months ended June 30, 2019, resulting from lower average rates on consolidated obligations. The average rate on consolidated obligations was 0.76% and 1.20% for the three and six months ended June 30, 2020, decreases of 172 and 129 basis points compared to the three and six months ended June 30, 2019. The decreases in the average rates on consolidated obligations were driven by the lower interest-rate environment, including the effect of derivatives and hedging activities on interest expense from consolidated obligations, and the runoff of higher-rate consolidated obligations and replacement of these consolidated obligations in the lower interest-rate environment. (See *Table 22* for additional information regarding the effect of derivatives and hedging activities on net interest income.)

Effect of Derivatives and Hedging Activities on Net Interest Income

Net interest income includes components related to the effect of derivatives and hedging activities resulting from the FHLBanks' hedging strategies. If a hedging relationship is designated and qualifies for hedge accounting treatment, the net interest settlements of interest receivables or payables related to derivatives designated in fair value or cash flow hedge relationships are recognized as adjustments to interest income or expense of the designated hedged item. When hedge accounting is discontinued, the cumulative basis adjustment on the hedged item is amortized or accreted into net interest income over the remaining life of the hedged item using a level-yield methodology. In addition, changes in fair value of the derivative and the hedged item for designated fair value hedges are recorded in net interest income in the same line as the hedged item. (See *Note 6 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional information on the effect of derivatives and hedging activities.) Table 22 presents the effect of derivatives and hedging activities on net interest income.

Table 22 - Effect of Derivatives and Hedging Activities on Net Interest Income
(dollars in millions)

	Three Months Ended June 30, 2020					
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income						
Amortization and accretion of hedging activities in net interest income	$ (23)	$ (7)	$ (8)	$ (3)	$ (1)	$ (42)
Net gains (losses) on derivatives and hedged items	3	12	—	13	18	46
Net interest settlements on derivatives	(484)	(272)	—	213	29	(514)
Total effect on net interest income	$ (504)	$ (267)	$ (8)	$ 223	$ 46	$ (510)

	Three Months Ended June 30, 2019					
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income						
Amortization and accretion of hedging activities in net interest income	$ (8)	$ (2)	$ (3)	$ (6)	$ (4)	$ (23)
Net gains (losses) on derivatives and hedged items	(7)	(40)	—	(7)	—	(54)
Net interest settlements on derivatives	191	10	—	(155)	(2)	44
Total effect on net interest income	$ 176	$ (32)	$ (3)	$ (168)	$ (6)	$ (33)

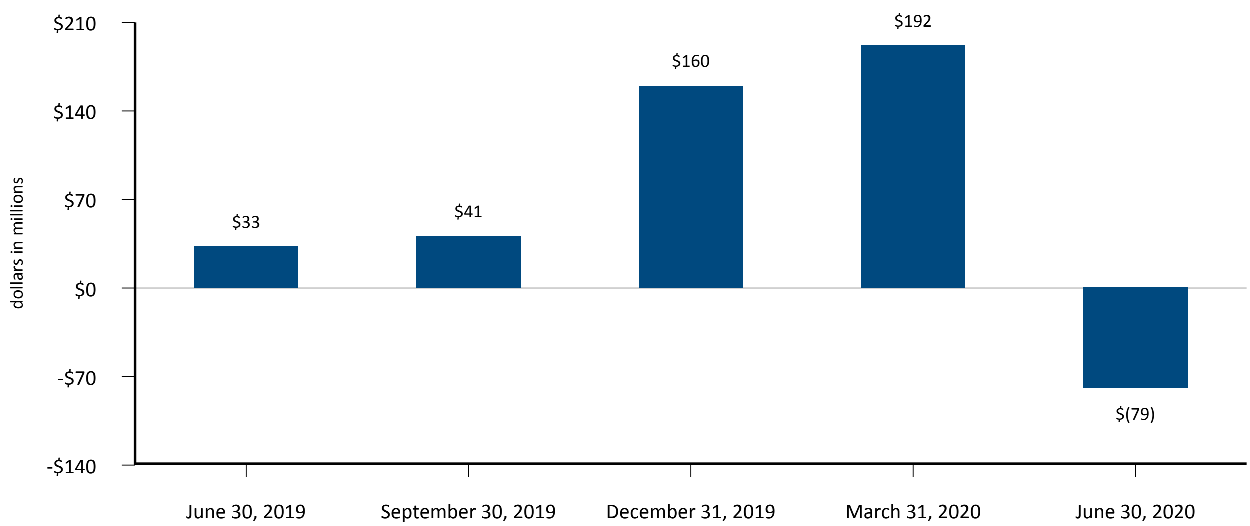
	Six Months Ended June 30, 2020					
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income						
Amortization and accretion of hedging activities in net interest income	$ (42)	$ (9)	$ (12)	$ (5)	$ (2)	$ (70)
Net gains (losses) on derivatives and hedged items	(31)	(66)	—	5	2	(90)
Net interest settlements on derivatives	(591)	(383)	—	304	40	(630)
Total effect on net interest income	$ (664)	$ (458)	$ (12)	$ 304	$ 40	$ (790)

	Six Months Ended June 30, 2019					
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Total
Net interest income						
Amortization and accretion of hedging activities in net interest income	$ (16)	$ 1	$ (5)	$ (12)	$ (7)	$ (39)
Net gains (losses) on derivatives and hedged items	(9)	(71)	—	(15)	—	(95)
Net interest settlements on derivatives	438	27	—	(357)	(9)	99
Total effect on net interest income	$ 413	$ (43)	$ (5)	$ (384)	$ (16)	$ (35)

Non-Interest Income

Non-interest income consists of realized and unrealized gains (losses) on investment securities, derivatives activities, financial instruments held under fair value option, and other non-interest-earning activities. Figure 22 presents non-interest income for the most recent five quarters.

Figure 22 - Non-Interest Income



Non-interest income was a loss of $79 million for the three months ended June 30, 2020, a decrease of $112 million compared to a gain of $33 million for the three months ended June 30, 2019, due primarily to net losses on U.S. Treasury obligations classified as trading securities, partially offset by lower net losses on derivatives and hedging activities. Non-interest income was $113 million for the six months ended June 30, 2020, an increase of $17 million compared to the six months ended June 30, 2019, due primarily to higher net gains on U.S. Treasury obligations classified as trading securities, partially offset by higher net losses on derivatives and hedging activities.

Table 23 - Changes in Non-Interest Income
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Net gains (losses) on investment securities	$ (142)	$ 312	$ (454)	$ 1,032	$ 417	$ 615
Net gains (losses) on financial instruments held under fair value option	87	42	45	143	65	78
Net gains (losses) on derivatives and hedging activities	(97)	(366)	269	(1,218)	(474)	(744)
Other, net	73	45	28	156	88	68
Total non-interest income (loss)	$ (79)	$ 33	$ (112)	$ 113	$ 96	$ 17

Gains (Losses) on Investment Securities. The FHLBanks classify investment securities as AFS, HTM, or trading securities. The realized gains (losses) from the sale of AFS and HTM securities are recognized in current period earnings. Trading securities are recorded at fair value, with changes in fair value reflected in non-interest income. There are a number of factors that affect the fair value of trading securities, including current and projected levels of interest rates, credit spreads, and volatility, as well as the passage of time. The net losses on investment securities of $142 million for the three months ended June 30, 2020, compared to net gains of $312 million for the three months ended June 30, 2019, resulted primarily from fair value losses on U.S. Treasury obligations classified as trading securities driven by changes in interest rates. The net gains on investment securities of $1,032 million for the six months ended June 30, 2020, compared to $417 million for the six months ended June 30, 2019, resulted primarily from higher fair value gains on U.S. Treasury obligations classified as trading securities driven by changes in interest rates.

Gains (Losses) on Financial Instruments Held under Fair Value Option. Certain FHLBanks elect the fair value option for certain financial assets and certain financial liabilities, and recognize the changes in fair value on these assets and liabilities as unrealized gains and losses in current period earnings. The use of the fair value option allows these FHLBanks to mitigate potential income statement volatility that can arise when an economic derivative is adjusted for changes in fair value but the related hedged item is not. (See *Table 24* for additional information regarding the gains (losses) on financial instruments held under fair value option and the effect of derivatives and hedging activities on non-interest income and *Note 11 - Fair Value* to the accompanying combined financial statements for additional information.)

Gains (Losses) on Derivatives and Hedging Activities. Fair value estimates for an FHLBank's derivatives and hedging positions fluctuate with changes in market conditions. Fair values are based on a wide range of factors, including current and projected levels of interest rates, credit spreads, and volatility, as well as the passage of time. In general, an FHLBank holds derivatives and associated hedged items to the maturity, call, or put date. Therefore, as a matter of timing, nearly all of the cumulative net gains and losses for these financial instruments generally reverse over the remaining contractual terms of the hedged items. However, there may be instances when an FHLBank terminates these instruments prior to maturity or prior to the call or put dates. Terminating the financial instrument may result in a realized gain or loss.

Net losses on derivatives and economic hedging activities was $97 million for the three months ended June 30, 2020, compared to $366 million for the three months ended June 30, 2019. The net losses on derivatives and hedging activities for the three months ended June 30, 2020, resulted primarily from net interest settlement payments due to the decrease in interest rates, partially offset by an increase in the fair value of interest-rate swaps not designated as qualifying accounting hedges under GAAP.

Net losses on derivatives and economic hedging activities was $1,218 million for the six months ended June 30, 2020, compared to $474 million for the six months ended June 30, 2019. The net losses on derivatives and hedging activities for the six months ended June 30, 2020, resulted primarily from unrealized losses on interest-rate swaps not designated as qualifying accounting hedges under GAAP, which are hedging investment securities. The decline in fair value resulted from the spreads between investments being hedged and their associated swaps widening. Also contributing to the loss for the six months ended June 30, 2020, was net interest settlement payments due to the decrease in interest rates. Table 24 presents the effect of derivatives and hedging activities on non-interest income.

Table 24 - Effect of Derivatives and Hedging Activities on Non-Interest Income
(dollars in millions)

	Three Months Ended June 30, 2020							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and economic hedging activities								
Gains (losses) related to derivatives not designated as hedging instruments	$ (12)	$ (74)	$ (14)	$ (10)	$ 11	$ (2)	$ 4	$ (97)
Price alignment amount	—	—	—	—	—	—	—	—
Total net gains (losses) on derivatives and economic hedging activities	(12)	(74)	(14)	(10)	11	(2)	4	(97)
Net gains (losses) on trading securities	—	(146)	—	—	—	—	—	(146)
Net gains (losses) on financial instruments under fair value option	32	—	—	23	32	—	—	87
Total effect on non-interest income	$ 20	$ (220)	$ (14)	$ 13	$ 43	$ (2)	$ 4	$ (156)

	Three Months Ended June 30, 2019							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and economic hedging activities								
Gains (losses) related to derivatives not designated as hedging instruments	$ (102)	$ (326)	$ 4	$ 62	$ (18)	$ (4)	$ 14	$ (370)
Price alignment amount	—	—	—	—	—	—	4	4
Total net gains (losses) on derivatives and economic hedging activities	(102)	(326)	4	62	(18)	(4)	18	(366)
Net gains (losses) on trading securities	—	307	—	—	—	—	—	307
Net gains (losses) on financial instruments under fair value option	82	—	—	(40)	—	—	—	42
Total effect on non-interest income	$ (20)	$ (19)	$ 4	$ 22	$ (18)	$ (4)	$ 18	$ (17)

	Six Months Ended June 30, 2020							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and economic hedging activities								
Gains (losses) related to derivatives not designated as hedging instruments	$ (258)	$ (1,268)	$ (29)	$ 111	$ 93	$ 90	$ 37	$ (1,224)
Price alignment amount	—	—	—	—	—	—	6	6
Total net gains (losses) on derivatives and economic hedging activities	(258)	(1,268)	(29)	111	93	90	43	(1,218)
Net gains (losses) on trading securities	—	872	—	—	—	—	—	872
Net gains (losses) on financial instruments under fair value option	183	—	2	(28)	(14)	—	—	143
Total effect on non-interest income	$ (75)	$ (396)	$ (27)	$ 83	$ 79	$ 90	$ 43	$ (203)

	Six Months Ended June 30, 2019							
	Advances	Investment Securities	Mortgage Loans	Consolidated Bonds	Consolidated Discount Notes	Balance Sheet	Intermediary Positions and Other	Total
Net gains (losses) on derivatives and economic hedging activities								
Gains (losses) related to derivatives not designated as hedging instruments	$ (144)	$ (425)	$ 2	$ 119	$ (37)	$ (17)	$ 23	$ (479)
Price alignment amount	—	—	—	—	—	—	5	5
Total net gains (losses) on derivatives and economic hedging activities	(144)	(425)	2	119	(37)	(17)	28	(474)
Net gains (losses) on trading securities	—	410	—	—	—	—	—	410
Net gains (losses) on financial instruments under fair value option	137	—	—	(72)	—	—	—	65
Total effect on non-interest income	$ (7)	$ (15)	$ 2	$ 47	$ (37)	$ (17)	$ 28	$ 1

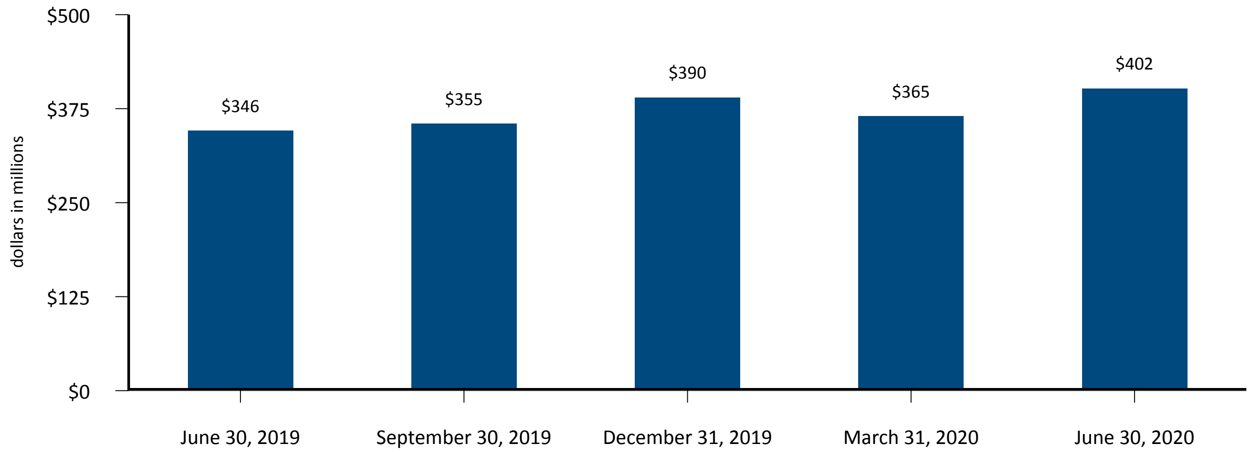
See *Note 6 - Derivatives and Hedging Activities* to the accompanying combined financial statements for additional information on the financial effect of derivatives and hedging activities**.**

Other, net. Other, net was $73 million for the three months ended June 30, 2020, an increase of $28 million compared to the three months ended June 30, 2019. Other, net was $156 million for the six months ended June 30, 2020, an increase of $68 million compared to the six months ended June 30, 2019, resulting principally from gains on litigation settlements, which are net of legal fees and expenses, due to the settlement of certain claims arising from investments in private-label MBS resulting in a net gain of $56 million by the FHLBank of Des Moines.

Non-Interest Expense

Non-interest expense consists of compensation and benefits, other operating expenses, FHFA expenses, Office of Finance expenses, and other expenses. Figure 23 presents non-interest expense for the most recent five quarters.

Figure 23 - Non-Interest Expense



Non-interest expense was $402 million and $767 million for the three and six months ended June 30, 2020, increases of 16.2% and 12.8% compared to the three and six months ended June 30, 2019, due primarily to an increase in compensation and benefits driven by an additional retirement plan contribution of $20 million by the FHLBank of Atlanta during the first quarter of 2020, as well as an increase in other expenses resulting primarily from subsidized advances and grants issued in connection with COVID-19 relief programs during the second quarter of 2020.

Table 25 - Changes in Non-Interest Expense
(dollars in millions)

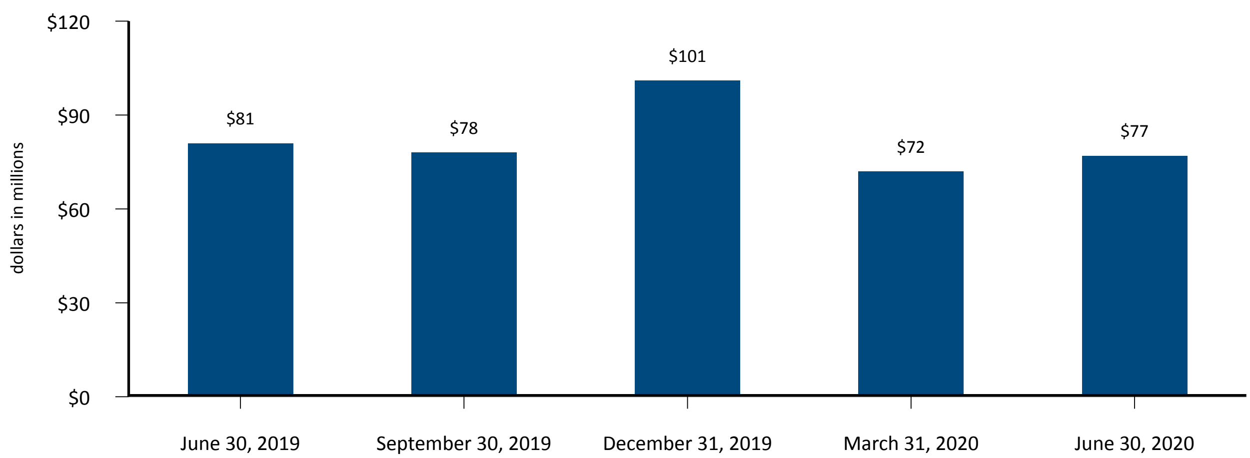
	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Compensation and benefits	$ 190	$ 169	$ 21	$ 402	$ 349	$ 53
Other operating expenses	126	131	(5)	238	238	—
Federal Housing Finance Agency	19	17	2	38	35	3
Office of Finance	14	14	—	31	29	2
Other expenses	53	15	38	58	29	29
Total non-interest expense	$ 402	$ 346	$ 56	$ 767	$ 680	$ 87

Affordable Housing Program Assessments

By regulation, each FHLBank is required to contribute to its AHP the greater of 10% of its annual income subject to assessment, or the prorated sum required to ensure the aggregate contribution by the FHLBanks is no less than $100 million for each year. In addition to the required assessment, an FHLBank's board of directors may elect to make voluntary contributions to the AHP. For purposes of the AHP calculation, each FHLBank's income subject to assessment is defined as the individual FHLBank's net income before assessments, plus interest expense related to mandatorily redeemable capital stock.

AHP helps members provide subsidized and other low-cost funding, as well as grants, to create affordable rental and homeownership opportunities. All FHLBank operating costs for the AHP are included in operating expenses, so all AHP assessments go directly to support affordable housing projects. Figure 24 presents AHP assessments for the most recent five quarters.

Figure 24 - Affordable Housing Program Assessments



Comprehensive Income

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

Other comprehensive income was a gain of $1,047 million for the three months ended June 30, 2020, compared to other comprehensive loss of $104 million for the three months ended June 30, 2019, due principally to net unrealized gains on MBS classified as AFS securities. Other comprehensive income was a loss of $1,139 million for the six months ended June 30, 2020, compared to other comprehensive income of $81 million for the six months ended June 30, 2019, due principally to net unrealized losses on MBS classified as AFS securities.

Table 26 - Comprehensive Income
(dollars in millions)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2020	2019	Change	2020	2019	Change
Net income	$ 682	$ 709	$ (27)	$ 1,309	$ 1,609	$ (300)
Other comprehensive income						
Changes in fair value of AFS securities						
Net unrealized gains (losses) on AFS securities	1,053	17	1,036	(865)	247	(1,112)
Net change in fair value of other-than-temporarily impaired AFS securities	—	(12)	12	—	(7)	7
Total changes in fair value of AFS securities	1,053	5	1,048	(865)	240	(1,105)
Changes in non-credit other-than-temporary impairment losses(1)						
Net amount of AFS and HTM impairment losses reclassified to (from) non-interest income	—	4	(4)	—	4	(4)
Non-credit losses included in basis of HTM securities sold	—	—	—	20	—	20
Accretion of non-credit portion on HTM securities	8	16	(8)	17	30	(13)
Total changes in non-credit OTTI losses	8	20	(12)	37	34	3
Net unrealized gains (losses) relating to hedging activities	(16)	(128)	112	(307)	(198)	(109)
Other	2	(1)	3	(4)	5	(9)
Total other comprehensive income (loss)	1,047	(104)	1,151	(1,139)	81	(1,220)
Comprehensive income (loss)	$ 1,729	$ 605	$ 1,124	$ 170	$ 1,690	$ (1,520)

(1) With the adoption of changes to accounting standards on measurement of credit losses for financial instruments on January 1, 2020, the other-than-temporary impairment (OTTI) assessment was replaced with an allowance for credit losses. (See *Note 1 - Summary of Significant Accounting Policies* and *Note 2 - Recently Issued and Adopted Accounting Guidance* for further information.)

Changes in Fair Value of AFS securities. Changes in the fair value of AFS securities are recorded in other comprehensive income. The net change in unrealized gains (losses) on AFS securities is due primarily to changes in interest rates, credit spreads, the passage of time, and volatility.

Prior to January 1, 2020, the net change in the fair value of OTTI AFS securities was driven by housing prices and the economic outlook, as well as changes in interest rates, credit spreads, the passage of time, and volatility. (See *Note 1 - Summary of Significant Accounting Policies* on pages F-12 to F-22 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for information on the prior accounting treatment.)

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

Net Amount of AFS and HTM Impairment Losses Reclassified to (from) Non-interest Income. Prior to January 1, 2020, for AFS and HTM securities with OTTI, the net decrease or increase in the non-credit component was reclassified between AOCI and earnings.

Accretion of the Non-credit Portion on HTM Securities. For HTM securities with non-credit-related impairment losses recognized in AOCI prior to January 1, 2020, the non-credit-related impairment is accreted as an increase in the carrying value over the remaining life of the security, based on the amount and timing of future estimated cash flows.

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

Liquidity and Capital Resources

Liquidity

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

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

Sources of Liquidity. The FHLBanks' primary sources of liquidity are proceeds from the issuance of consolidated obligations, as well as cash and investment holdings that are primarily high-quality, short-, and intermediate-term financial instruments. The FHLBanks' consolidated obligations are not obligations of the United States and are not guaranteed by the United States, but have historically received the same credit rating as the government bond credit rating of the United States. S&P, Moody's, or other rating organizations could downgrade or upgrade the credit ratings of the U.S. government and GSEs, including the FHLBanks and their consolidated obligations. Investors should note that a rating issued by a nationally recognized statistical rating organization is not a recommendation to buy, sell, or hold securities, and that the ratings may be revised or withdrawn at any time. Investors should evaluate the rating of each nationally recognized statistical rating organization independently. As of July 31, 2020, the FHLBanks' consolidated obligations were rated AA+/A-1+ and Aaa/P-1 (with outlook stable) by S&P and Moody's. Investors should not take the historical or current ratings of the FHLBanks and their consolidated obligations as an indication of future ratings of the FHLBanks and their consolidated obligations.

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

Uses of Liquidity. The FHLBanks' primary uses of liquidity are advance originations and consolidated obligation payments. Other uses of liquidity are mortgage loan and investment purchases, dividend payments, and other contractual payments. An FHLBank also maintains liquidity to redeem or repurchase excess capital stock, at its discretion, upon the request of a member or under an FHLBank's capital plan.

See *Combined Financial Condition - Advances* for advance originations and repayments and *Combined Financial Condition - Consolidated Obligations* for net proceeds and payments for consolidated obligations.

FHLBank Funding and Debt Issuance. Changes or disruptions in the capital markets could limit the FHLBanks' ability to issue consolidated obligations. During the six months ended June 30, 2020, the FHLBanks maintained continual access to funding. The FHLBanks' short-term funding was generally driven by member demand and was achieved through the issuance of consolidated discount notes and short-term variable-rate consolidated bonds during the six months ended June 30, 2020. Due to the market volatility brought about by the COVID-19 pandemic and the resulting decline in interest rates, investors preferred short-term obligations. Despite the market volatility and the fluctuation in investor sentiment during this period, the FHLBanks continued to manage their debt issuance to meet the needs of their members.

Refinancing Risk and Investor Concentration Risk. There are inherent risks in utilizing short-term funding to support longer-dated assets and the FHLBanks may be exposed to refinancing risk and investor concentration risk. Refinancing risk includes the risk that the FHLBanks could have difficulty rolling over short-term obligations when market conditions change or investor confidence in short-term consolidated obligations declines. In managing and monitoring the amounts of financial assets that require refinancing, the FHLBanks consider their contractual maturities, as well as certain assumptions regarding expected cash flows (i.e., estimated prepayments, embedded call optionality, and scheduled amortizations). Investor concentration risk includes the risk that a market-driven or regulatory disruption to certain investor classes could lead to significant investor outflows causing unfavorable market conditions for consolidated obligations. (See the notes to the accompanying combined financial statements for additional information regarding contractual maturities of certain financial assets and financial liabilities and *Risk Factors - Liquidity Risk* on pages 28 to 29 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for more information on refinancing risk and investor concentration risk.)

Interest-Rate Risk. The FHLBanks may use a portion of the short-term consolidated obligations issued to fund both short- and long-term variable-rate assets. However, funding longer-term variable-rate assets with shorter-term liabilities generally does not expose the FHLBanks to interest-rate risk because the rates on the variable-rate assets reset similarly to the liabilities (either through rate resets or re-issuance of the obligations). The FHLBanks measure and monitor interest-rate risk with commonly used methods and metrics, which include the calculations of market value of equity, duration of equity, and duration gap. (See *Quantitative and Qualitative Disclosures about Market Risk* for additional discussion and analysis regarding the FHLBanks' sensitivity to interest rate changes and the use of derivatives to manage their exposure to interest-rate risk.)

Asset/Liability Maturity Profile. Each FHLBank is focused on maintaining an adequate amount of liquidity, and the FHLBanks work collectively to manage system-wide liquidity and funding needs. The FHLBanks are committed to prudent risk management practices and jointly monitor the FHLBank system risks, including by tracking the funding gap, which is a measure of the difference in the projected cash flows from their financial assets and financial liabilities. External factors, including FHLBank member borrowing needs, supply and demand in the debt markets, and other factors may affect the amount of liquidity and the balance between the cash flows for financial assets and financial liabilities. However, due to the FHLBanks' status as GSEs, they have traditionally had ready access to funding at relatively favorable rates.

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

- have available at all times an amount greater than or equal to its members' current deposits invested in advances with maturities not to exceed five years, deposits in banks or trust companies, and obligations of the U.S. Treasury;
- maintain, in the aggregate, unpledged qualifying assets in an amount at least equal to the amount of its participation in total consolidated obligations outstanding; and
- maintain a base case amount of liquidity measured using a two-component formula:
  - The cash flow component requires each FHLBank to maintain a liquidity reserve equal to a specified number of days (between 10 and 30 calendar days) of the FHLBank's projected funding needs assuming an inability to access capital markets for consolidated obligations and renewal of all maturing advances.
  - The standby letters of credit component requires each FHLBank to hold additional liquid assets equal to a specified percentage (between 1% and 20%) of the FHLBank's outstanding standby letter of credit commitments.

Each FHLBank also maintains a contingency liquidity plan designed to enable it to meet its obligations and the liquidity needs of members in the event of operational disruptions at the FHLBanks and/or the Office of Finance, or short-term capital market disruptions.

During the six months ended June 30, 2020, each of the FHLBanks was in compliance with the FHFA's liquidity requirements, including the FHFA's Advisory Bulletin on liquidity and the FHFA's funding gap guidance for three-month and one-year maturity horizons, except for the FHLBank of Topeka. The FHLBank of Topeka was in compliance with the FHFA's liquidity regulatory requirements during the first half of 2020, except for the three-month funding gap during a portion of the first quarter of 2020.

Capital Resources

The FHLBanks' ability to expand their balance sheets as member credit needs increase is based, in part, on the capital stock requirements for advances. In addition, FHFA regulations stipulate that each FHLBank must comply with three limits on capital. Although each FHLBank's minimum total regulatory capital-to-assets ratio requirement is 4.0%, each FHLBank strives to maintain a level of retained earnings to support its regulatory capital compliance, stable dividend payments to members, and business growth. At June 30, 2020, each FHLBank was in compliance with its statutory minimum capital requirements. In 2019, the FHFA issued an advisory bulletin that provides that each FHLBank maintain a ratio of at least two percent of capital stock to total assets beginning in February 2020. At June 30, 2020, each FHLBank was in compliance with the requirements of the capital stock advisory bulletin. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information regarding minimum regulatory capital requirements.)

Regulatory guidance provides that each FHLBank assess, at least once a year, the adequacy of its retained earnings under various future financial and economic scenarios, including:

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

Management and the board of directors of each FHLBank review the capital structure of that FHLBank on a periodic basis to ensure the capital structure supports the risk associated with its assets and addresses applicable regulatory and supervisory matters. In addition, an individual FHLBank may, at its discretion, institute a higher capital requirement to meet internally-established thresholds or to address supervisory matters, limit dividend payments, or restrict excess capital stock repurchases as part of its retained earnings policies.

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

Critical Accounting Estimates

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

In the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, certain accounting estimates and assumptions were identified as critical because they are generally considered by each FHLBank's management to be the most critical to an understanding of its financial statements and the financial data it provides to the Office of Finance for preparing the combined financial report. These estimates and assumptions consist of those used in conjunction with fair value estimates and derivatives and hedging activities. For a description of accounting policies related to these estimates and assumptions, see *Note 1 - Summary of Significant Accounting Policies* on pages F-12 to F-22 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019.

There have been no significant changes to the critical accounting estimates disclosed in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019. For a detailed discussion of Critical Accounting Estimates, see *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Critical Accounting Estimates* on pages 82 to 85 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019. Each FHLBank describes its critical accounting estimates in its periodic reports filed with the SEC.

Recent Accounting Developments

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

Legislative and Regulatory Developments

Certain regulatory actions and developments are summarized in this section. (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Legislative and Regulatory Developments* in the Federal Home Loan Banks Combined Financial Reports for the year ended December 31, 2019 (pages 86 to 89) and the quarterly period ended March 31, 2020 (pages 41 to 42), for a description of certain legislative and regulatory developments that occurred prior to the publication of these reports.)

Margin and Capital Requirements for Covered Swap Entities. On July 1, 2020, the Office of the Comptroller of the Currency, the Federal Reserve Board, the FDIC, the Farm Credit Administration, and the FHFA (collectively, the Agencies) jointly published a final rule, effective August 31, 2020, amending the Agencies' regulations that established minimum margin and capital requirements for uncleared swaps (the prudential margin rules) for covered swap entities under the jurisdiction of one of the Agencies. In addition to other changes, the final rule: (1) allows swaps entered into by a covered swap entity prior to an applicable compliance date to retain their legacy status and not become subject to the prudential margin rules in the event that the legacy swaps are amended to replace an interbank offered rate (such as LIBOR) or other discontinued rate, or due to other technical amendments such as notional reductions or portfolio compression exercises; (2) introduces a new Phase 6 compliance date for initial margin requirements for covered swap entities and their counterparties with an average daily aggregate notional amount of uncleared swaps from $8 billion to $50 billion, and limits Phase 5 to counterparties with an average daily aggregate notional amount of uncleared swaps from $50 billion to $750 billion; and (3) clarifies that initial margin trading documentation does not need to be executed prior to a counterparty reaching the initial margin threshold.

On the same date, the Agencies issued an interim final rule, effective September 1, 2020, extending the initial margin compliance date for Phase 5 counterparties to September 1, 2021 and extending the initial margin compliance date for Phase 6 counterparties to September 1, 2022. On July 10, 2020, the U.S. Commodity Futures Trading Commission published an interim final rule and a proposed rule for covered swap entities that are not under the jurisdiction of the Agencies, which extend the initial margin compliance date for Phase 5 counterparties to September 1, 2021 and, upon adoption of the proposed rule, would extend the initial margin compliance date for Phase 6 counterparties to September 1, 2022, thereby aligning with the Agencies.

The FHLBanks do not expect these rules to have a material effect on the FHLBanks' combined financial condition or combined results of operations.

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

While the FHLBanks are still analyzing the impact of the final rule, they do not believe these changes will have a material effect on the FHLBanks' combined financial condition or combined results of operations.

Certain Developments Related to the COVID-19 Pandemic

Federal Reserve Board Lending Facilities. The Federal Reserve Board announced on July 28, 2020 that its lending facilities, scheduled to expire on or around September 30, 2020, would be extended through December 31, 2020.

FHFA Supervisory Letter - Paycheck Protection Program Loans as Collateral for FHLBank Advances. On July 1, 2020, Congress approved an extension of the Paycheck Protection Program until August 8, 2020. The April 23, 2020 Supervisory Letter from the FHFA allowing FHLBanks to accept Paycheck Protection Program loans as collateral remains in effect.

Coronavirus Aid, Relief, and Economic Security Act. The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provisions began to expire in July 2020, but some have been extended by regulatory action:

- additional federal unemployment funds expired July 31, 2020;
- statutory eviction freeze for federally-backed properties expired July 25, 2020; and
- foreclosure moratorium on federally-backed properties and on evictions was extended by the FHFA on June 17, 2020, to until “at least” August 31, 2020.

Additional phases of the CARES Act or other COVID-19 pandemic relief legislation may be enacted by Congress. The FHLBanks continue to evaluate the potential effect of the CARES Act on their businesses, including its continued impact on the U.S. economy; the impact on mortgages held or serviced by the FHLBanks' members and accepted by the FHLBanks as collateral; and the impact on the FHLBanks' mortgage loan portfolios.

Additional COVID-19 Presidential, Legislative, and Regulatory Developments. In light of the COVID-19 pandemic, the President of the United States, through executive orders, governmental agencies, including the SEC, the Office of the Comptroller of the Currency, the Federal Reserve Board, the FDIC, the National Credit Union Administration, the U.S. Commodity Futures Trading Commission, and the FHFA, as well as state governments and agencies, have taken, and may continue to take, actions to provide various forms of relief from, and guidance regarding, the financial, operational, credit, market, and other effects of the pandemic, some of which may have a direct or indirect impact on the FHLBanks and/or their members. Many of these actions are temporary in nature. The FHLBanks continue to monitor these actions and guidance as they evolve and to evaluate their potential impact on the FHLBanks.

External Credit Ratings

Since June 30, 2020, no changes to external credit ratings have occurred with regard to the FHLBanks or their consolidated obligations. At July 31, 2020, consolidated obligations were rated AA+/A-1+ by S&P and Aaa/P-1 by Moody's, with outlook stable. S&P, Moody's, or other rating organizations could downgrade or upgrade the credit ratings of the U.S. government and GSEs, including the FHLBanks and their consolidated obligations. Investors should note that a rating issued by a nationally recognized statistical rating organization is not a recommendation to buy, sell, or hold securities, and that the ratings may be revised or withdrawn at any time. Investors should evaluate the rating of each nationally recognized statistical rating organization independently. Investors should not take the historical or current ratings of the FHLBanks and their consolidated obligations as an indication of future ratings of the FHLBanks and their consolidated obligations. Table 27 presents each FHLBank's long-term credit rating, short-term credit rating, and outlook at July 31, 2020.

Table 27 - FHLBanks' Long-Term Credit Ratings, Short-Term Credit Ratings, and Outlook at July 31, 2020

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

Risk Management

The fundamental business of each FHLBank is to provide a readily available, competitively-priced source of funds, in a wide range of maturities, to meet the borrowing demands of its members and housing associates. The principal sources of funds for these activities are the proceeds from the issuance of consolidated obligations and, to a lesser extent, capital and deposits from members. Lending and investing funds, and engaging in derivative transactions, can potentially expose the FHLBanks to a number of risks, including market risk and credit risk. (See *Quantitative and Qualitative Disclosures about Market Risk* for a discussion of market risk.) The FHLBanks are also subject to liquidity, operational, and business risks. (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Risk Management*, on pages 109 to 110, and *Risk Factors*, on pages 22 to 30, of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019 and as updated on page 63 of the Federal Home Loan Banks Combined Financial Report for the quarterly period ended March 31, 2020, for more information.)

Credit Risk

Advances. Each FHLBank manages its credit exposure to advances through an integrated approach that provides for the ongoing review of the financial condition of its borrowers coupled with collateral and lending policies and procedures designed to limit its risk of loss while balancing its borrowers' needs for a reliable source of funding. Each FHLBank uses a methodology to evaluate its borrowers, based on financial, regulatory, and other qualitative information, including examination reports. Each FHLBank reviews its borrowers' financial condition on an ongoing basis using current information and makes changes to its collateral guidelines to mitigate the credit risk on advances. As of June 30, 2020, the management of each FHLBank believed it had adequate policies and procedures in place to manage its credit risk on advances effectively.

The FHLBanks protect against credit risk on advances by collateralizing all advances. Advances and other credit product obligations to an FHLBank are fully secured with eligible collateral, the value of which is discounted to protect the FHLBanks from credit loss. Collateral that is determined to contain a low level of risk, such as U.S government obligations, is discounted at a lower rate than collateral that carries a higher level of risk, such as commercial real estate mortgage loans. Eligible collateral values are determined by the market value for securities collateral, and the market value or unpaid principal balance for all loan collateral. For collateral which market prices are not readily available, the FHLBanks may use internal or external valuation models or methodologies to determine the fair value of the collateral. These valuation models incorporate assumptions related to factors that may affect collateral values, such as market liquidity, discounts rates, potential prepayments, and liquidation and servicing costs in the event of default, among others, which may be adjusted in response to changes in economic and market conditions in order to produce reliable results. The FHLBanks also have policies and procedures for validating the reasonableness of their collateral valuations. In addition, collateral verifications and on-site reviews are performed by the FHLBanks based on the risk profile of the borrower. As a result of recent stressed market conditions created by the COVID-19 pandemic, the FHLBanks are taking additional steps to monitor the credit risk on advances. These steps include increased frequency of collateral valuation and identifying, analyzing, and monitoring borrowers with higher risk profiles. At June 30, 2020, each FHLBank had rights to collateral with an estimated value greater than the related outstanding advances. (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Risk Management - Credit Risk - Advances*, on pages 90 to 95 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for information on eligible collateral and effective lending values.)

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

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

To support small and community banks during the COVID-19 pandemic, in April 2020, the FHFA permitted the FHLBanks to accept Paycheck Protection Program loans as collateral for advances, subject to certain conditions. (See *Legislative and Regulatory Developments* in this Combined Financial Report and *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Legislative and Regulatory Developments*, on pages 41 to 42 of the Federal Home Loan Banks Combined Financial Report for the quarterly period ended March 31, 2020, for additional information on these recent changes.) In addition, to provide greater flexibility in the current economic environment most FHLBanks implemented temporary relief provisions to allow for mortgage loans within a forbearance period of up to 12 months to be recognized as eligible collateral for advances, as long as the loans continue to meet all other eligibility requirements as defined in the FHLBanks' collateral guidelines.

As of June 30, 2020, there were 98 individual FHLBank borrowers (96 FHLBank members and 2 non-members) that each held advances of at least $1.0 billion. When a non-member financial institution acquires some or all of the assets and liabilities of an FHLBank member, including outstanding advances and FHLBank capital stock, an FHLBank may allow those advances to remain outstanding to that non-member financial institution. The non-member borrower would be required to meet all of that FHLBank's credit and collateral requirements, including requirements regarding creditworthiness and collateral borrowing capacity.

A borrower's total credit obligation to an FHLBank could include outstanding advances, notional amount of letters of credit, collateralized derivative contracts, and credit enhanced obligations on mortgage loans sold to the FHLBank. Eligible collateral values include market values for securities and the unpaid principal balance for all other collateral pledged by the blanket lien, listing, or delivery method. The collateralization ratio was 3.2 at June 30, 2020, which represents the total of these 98 individual FHLBank borrowers' eligible collateral divided by these borrowers' advances and other credit products outstanding. The collateralization ratio for all borrowers was 3.9 at June 30, 2020. However, individual borrower credit obligations to the FHLBanks are not cross-collateralized between borrowers.

Table 28 presents advances, other credit products (which primarily includes notional amount of letters of credit), and collateral outstanding for borrowers with at least $1.0 billion of advances outstanding as compared to all borrowers.

Table 28 - Advances, Other Credit Products, and Collateral Outstanding at June 30, 2020
(dollars in millions)

	Borrowers with at Least $1.0 Billion of Advances Outstanding	All Borrowers	Percentage
Advances outstanding, principal amount	$ 358,990	$ 547,652	65.6%
Other credit products	$ 70,798	$ 164,429	43.1%
Collateral outstanding	$ 1,380,986	$ 2,779,581	49.7%

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

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

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

Table 29 presents information on a combined basis regarding the type of collateral securing advances and other credit products outstanding.

Table 29 - Type of Collateral Securing Advances and Other Credit Products Outstanding at June 30, 2020
(dollars in millions)

	Blanket Lien		Listing		Delivery		Total	
Collateral Type	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage
Single-family mortgage loans(1)	$ 540,984	19.5%	$ 778,846	28.0%	$ 3,671	0.1%	$ 1,323,501	47.6%
Commercial real estate loans	408,244	14.7%	137,553	5.0%	39,330	1.4%	585,127	21.1%
Multifamily mortgage loans	87,206	3.1%	172,961	6.2%	16,163	0.6%	276,330	9.9%
Home equity loans and lines of credit	81,066	2.9%	75,663	2.7%	61	—	156,790	5.6%
U.S. agency MBS and CMOs	n/a	n/a	n/a	n/a	145,134	5.2%	145,134	5.2%
Other real estate loans	58,266	2.1%	80,232	2.9%	4,416	0.2%	142,914	5.2%
CFI loans	40,122	1.4%	1,610	0.1%	27	—	41,759	1.5%
Commercial MBS	n/a	n/a	n/a	n/a	30,272	1.1%	30,272	1.1%
U.S. obligations	n/a	n/a	n/a	n/a	19,232	0.7%	19,232	0.7%
U.S. agency securities (excluding MBS)	n/a	n/a	n/a	n/a	18,168	0.7%	18,168	0.7%
Private-label MBS and CMOs	n/a	n/a	n/a	n/a	6,553	0.2%	6,553	0.2%
Other(2)	589	—	13,690	0.5%	19,522	0.7%	33,801	1.2%
Total collateral	$ 1,216,477	43.7%	$ 1,260,555	45.4%	$ 302,549	10.9%	$ 2,779,581	100.0%

(1) Includes Federal Housing Administration and Department of Veterans Affairs loans.
(2) Includes Paycheck Protection Program loans.
n/a Collateral is not pledged using this pledging method.

Figures 25 and 26 present the percentage of collateral securing advances and other credit products by type and the percentage of collateral securing advances and other credit products by pledging method at June 30, 2020.

Figure 25 - Percentage of Collateral Securing Advances and Other Credit Products by Type

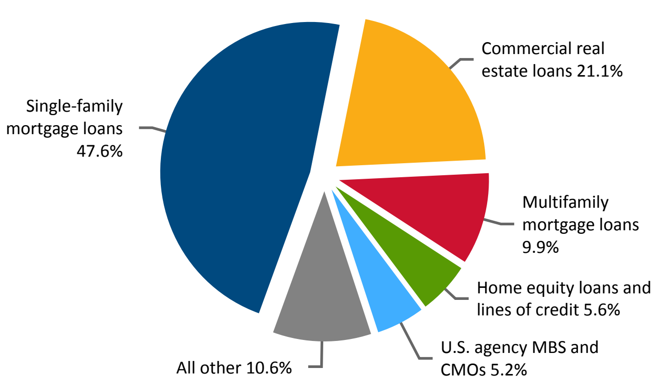
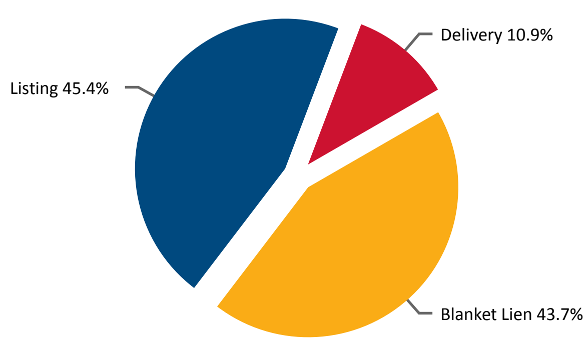


Figure 26 - Percentage of Collateral Securing Advances and Other Credit Products by Pledging Method



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

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

The FHLBanks maintain long-term investment portfolios as an additional source of liquidity and to earn interest income. These investments generally provide the FHLBanks with higher returns than those available on short-term investments. Within this portfolio of long-term investments, the FHLBanks are primarily subject to credit risk related to private-label mortgage-backed securities that are either directly or indirectly supported by underlying mortgage loans. Each private-label mortgage-backed security may contain one or more forms of credit protection/enhancements, including, but not limited to, (1) guarantee of principal and interest, (2) subordination, (3) over-collateralization and excess interest, and (4) third-party insurance. Credit enhancement achieved through subordination features results in the subordination of payments to junior classes to support cash flows received by senior classes held by investors such as the FHLBanks.

Regulatory Restrictions on Investments. To minimize credit risk on investments, the FHLBanks are prohibited by FHFA regulations from investing in certain security types. (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Risk Management - Credit Risk - Investments* on pages 95 to 96 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for additional information regarding the regulatory restrictions on investments.)

Investment Quality and Ratings. The FHLBanks seek to reduce the credit risk by investing in investment-quality securities. The FHLBanks consider a variety of credit quality factors when analyzing potential investments, including collateral performance, marketability, asset class or sector considerations, local and regional economic conditions, credit ratings based on the nationally recognized statistical rating organization(s), and/or the financial health of the underlying issuer. Although the FHLBanks invested in private-label mortgage-backed securities that at the date of purchase were substantially all rated triple-A, many of these securities have incurred credit losses based on economic conditions and housing market trends since the FHLBanks originally purchased them. Figures 27 and 28 present the composition of total investments by credit rating at June 30, 2020 and December 31, 2019.

Figure 27 - Total Investments by Credit Rating at June 30, 2020 (dollars in billions)

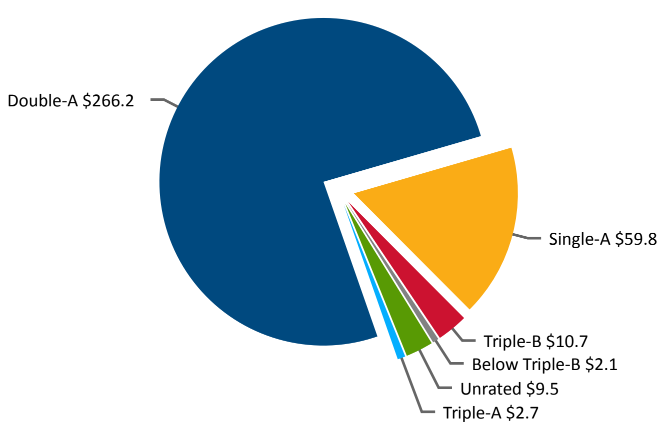


Figure 28 - Total Investments by Credit Rating at December 31, 2019 (dollars in billions)

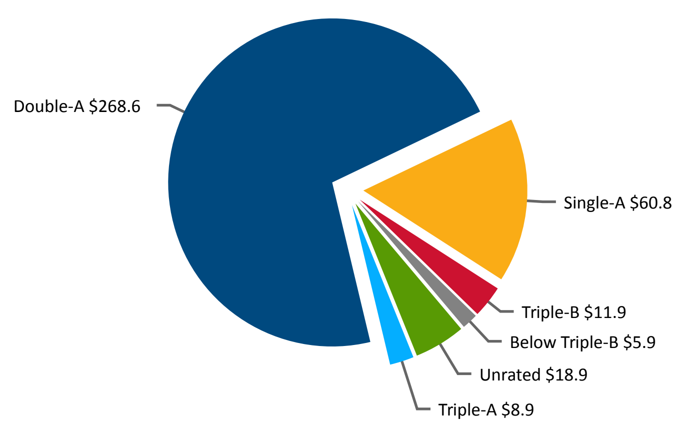


Table 30 presents the credit ratings of the investment securities held by the FHLBanks as of June 30, 2020 and December 31, 2019, using the lowest long-term credit rating for each security owned by an individual FHLBank based on the nationally recognized statistical rating organization(s) used by that FHLBank. The internal ratings of an individual FHLBank may differ from those obtained from the nationally recognized statistical rating organization(s) and other FHLBank internal ratings. Investors should not take the historical or current ratings displayed in this table as an indication of future ratings.

Table 30 - Investment Ratings
(dollars in millions)

	June 30, 2020(1)(2)						
Carrying Value, Net	**Triple-A**	**Double-A**	**Single-A**	**Triple-B**	**Below Triple-B**	**Unrated**	**Total**
Interest-bearing deposits	$ —	$ 253	$ 12,954	$ 48	$ —	$ —	$ 13,255
Securities purchased under agreements to resell	—	8,214	14,750	10,050	—	8,500	41,514
Federal funds sold	—	21,367	31,857	430	—	—	53,654
Total investment securities by major security type							
Non-mortgage backed securities							
Certificates of deposit	—	—	—	—	—	—	—
U.S. Treasury obligations	—	68,652	—	—	—	—	68,652
Other U.S. obligations	—	4,844	—	—	—	—	4,844
GSE and Tennessee Valley Authority obligations	—	19,178	—	—	—	—	19,178
State or local housing agency obligations	981	1,596	9	40	—	—	2,626
Federal Family Education Loan Program ABS	22	3,090	—	—	—	—	3,112
Other	952	90	—	—	—	8	1,050
Total non-mortgage-backed securities	1,955	97,450	9	40	—	8	99,462
Mortgage-backed securities							
U.S. obligations single-family MBS	57	10,289	—	—	—	—	10,346
U.S. obligations multifamily MBS	—	167	—	—	—	—	167
GSE single-family MBS	—	31,375	5	—	3	—	31,383
GSE multifamily MBS	716	96,950	—	—	—	—	97,666
Private-label MBS	—	120	178	166	2,101	1,035	3,600
Total mortgage-backed securities	773	138,901	183	166	2,104	1,035	143,162
Total investment securities	2,728	236,351	192	206	2,104	1,043	242,624
Total investments	$ 2,728	$ 266,185	$ 59,753	$ 10,734	$ 2,104	$ 9,543	$ 351,047

Carrying Value	December 31, 2019(2)(3) Triple-A	Double-A	Single-A	Triple-B	Below Triple-B	Unrated	Total
Interest-bearing deposits	$ —	$ 934	$ 12,846	$ 649	$ —	$ —	$ 14,429
Securities purchased under agreements to resell	6,500	20,349	13,550	9,600	2,985	17,110	70,094
Federal funds sold	—	16,604	33,242	1,370	—	141	51,357
Total investment securities by major security type							
Non-mortgage backed securities							
Certificates of deposit	—	500	910	—	—	—	1,410
U.S. Treasury obligations	—	60,063	—	—	—	—	60,063
Other U.S. obligations	—	4,559	—	—	—	—	4,559
GSE and Tennessee Valley Authority obligations	—	20,295	—	—	—	—	20,295
State or local housing agency obligations	1,027	1,719	17	42	—	—	2,805
Federal Family Education Loan Program ABS	26	3,326	—	—	—	—	3,352
Other	907	99	—	—	—	9	1,015
Total non-mortgage-backed securities	1,960	90,561	927	42	—	9	93,499
Mortgage-backed securities							
U.S. obligations single-family MBS	106	11,020	—	—	—	—	11,126
U.S. obligations multifamily MBS	—	284	—	—	—	—	284
GSE single-family MBS	—	34,315	5	—	3	—	34,323
GSE multifamily MBS	316	94,428	—	—	—	—	94,744
Private-label MBS	—	177	251	244	2,876	1,591	5,139
Total mortgage-backed securities	422	140,224	256	244	2,879	1,591	145,616
Total investment securities	2,382	230,785	1,183	286	2,879	1,600	239,115
Total investments	$ 8,882	$ 268,672	$ 60,821	$ 11,905	$ 5,864	$ 18,851	$ 374,995

(1) Does not reflect any changes in ratings, outlook, or watch status occurring after June 30, 2020. Net carrying values at June 30, 2020 are presented after any allowance for credit losses.
(2) Carrying values do not include related accrued interest.
(3) Does not reflect any changes in ratings, outlook, or watch status occurring after December 31, 2019.

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

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

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

- *Interest-bearing deposits.* Primarily consists of unsecured deposits that earn interest.
- *Federal funds sold.* Unsecured loans of reserve balances at the Federal Reserve Banks between financial institutions that are made on an overnight and term basis.
- *Certificates of deposit.* Unsecured negotiable promissory notes issued by banks and payable to the bearer on demand.

Table 31 presents the FHLBanks' unsecured credit exposure with private counterparties by investment type. At June 30, 2020, the FHLBanks had aggregate unsecured credit exposure from investments of $1 billion or more to each of 20 private counterparties. The aggregate unsecured credit exposure to these counterparties represented 83.2% of the FHLBanks' total unsecured investment credit exposure to private counterparties. The unsecured investment credit exposure presented in Table 31 does not reflect the average or maximum exposure during the period, as the balances presented reflect the balances at period end.

Table 31 - Unsecured Credit Exposure by Investment Type
(dollars in millions)

Carrying Value(1)(2)	June 30, 2020	December 31, 2019
Interest-bearing deposits	$ 13,255	$ 14,429
Federal funds sold	53,654	51,357
Certificates of deposit	—	1,410
Total	$ 66,909	$ 67,196

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

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

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

FHFA regulation also permits the FHLBanks to extend additional unsecured credit for sales of federal funds with a maturity of one day or less and sales of federal funds subject to a continuing contract that renews automatically. An FHLBank's total unsecured exposure to a counterparty may not exceed twice the regulatory limit for term exposures, or a total of 2% to 30% of the eligible amount of capital, based on the counterparty's credit rating. As of June 30, 2020, each of the FHLBanks was in compliance with the regulatory limits established for unsecured credit.

The FHLBanks are prohibited by FHFA regulation from investing in financial instruments issued by non-U.S. entities, other than those issued by U.S. branches and agency offices of foreign commercial banks. The FHLBanks' unsecured credit exposures to U.S. branches and agency offices of foreign commercial banks include the risk that, as a result of political or economic conditions in a country, the counterparty may be unable to meet its contractual repayment obligations. The FHLBanks' unsecured credit exposures to domestic counterparties and U.S. subsidiaries of foreign commercial banks include the risk that these counterparties have extended credit to foreign counterparties. As of June 30, 2020, an FHLBank held full faith and credit U.S. guaranteed securities with foreign issuers totaling $448 million. Other than these investments, the FHLBanks are in compliance with the FHFA regulation as of June 30, 2020.

As of June 30, 2020, the FHLBanks' unsecured investment credit exposure to U.S. branches and agency offices of foreign commercial banks was comprised of federal funds sold. As of June 30, 2020, 95.6% of the FHLBanks' unsecured investments in federal funds sold were to U.S. branches and agency offices of foreign commercial banks.

Figure 29 presents total unsecured investment credit exposure by credit rating at June 30, 2020.

Figure 29 - Total Unsecured Investment Credit Exposure by Credit Rating (dollars in billions)

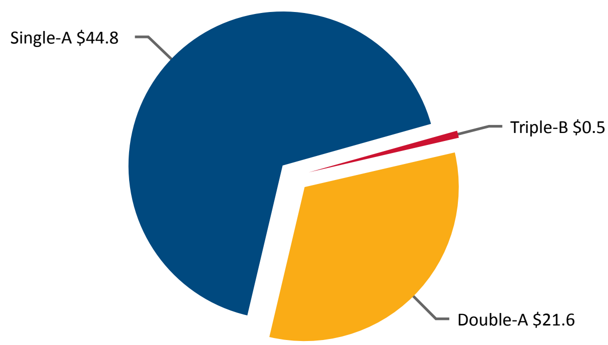


Table 32 presents the lowest long-term credit ratings of the unsecured investment credit exposures presented by the domicile of the counterparty or the domicile of the counterparty's immediate parent for U.S. branches and agency offices of foreign commercial banks based on the nationally recognized statistical rating organization(s) used by the individual FHLBank holding the investment. This table does not reflect the foreign sovereign government's credit rating. The internal ratings of an individual FHLBank may differ from those obtained from the nationally recognized statistical rating organization(s) and other FHLBank internal ratings. Investors should not take the historical or current ratings displayed in this table as an indication of future ratings.

Table 32 - Ratings of Unsecured Investment Credit Exposure by Domicile of Counterparty at June 30, 2020(1)
(dollars in millions)

	Investment Grade			
Carrying Value(2)	**Double-A**	**Single-A**	**Triple-B**	**Total**
Domestic	$ 2,185	$ 12,006	$ 478	$ 14,669
U.S. subsidiaries of foreign commercial banks	—	948	—	948
Total domestic and U.S. subsidiaries of foreign commercial banks	2,185	12,954	478	15,617
U.S. branches and agency offices of foreign commercial banks				
Canada	3,625	13,190	—	16,815
Australia	3,735	4,995	—	8,730
Sweden	3,910	3,990	—	7,900
Netherlands	—	6,557	—	6,557
Norway	4,285	—	—	4,285
Germany	1,100	1,825	—	2,925
Finland	2,780	—	—	2,780
France	—	800	—	800
Japan	—	500	—	500
Total U.S. branches and agency offices of foreign commercial banks	19,435	31,857	—	51,292
Total unsecured investment credit exposure	$ 21,620	$ 44,811	$ 478	$ 66,909

(1) Does not reflect any changes in ratings, outlook, or watch status occurring after June 30, 2020.
(2) Excludes unsecured investment credit exposure to U.S. government, U.S. government agencies, government instrumentalities, government-sponsored enterprises, and supranational entities, and does not include related accrued interest.

Table 33 presents the contractual maturity of the FHLBanks' unsecured investment credit exposure by the domicile of the counterparty or the domicile of the counterparty's immediate parent for U.S. branches and agency offices of foreign commercial banks. The FHLBanks also reduce the credit risk on investments by generally investing in investments that have short-term maturities. At June 30, 2020, all unsecured investments held by the FHLBanks had overnight maturities.

Table 33 - Contractual Maturity of Unsecured Investment Credit Exposure by Domicile of Counterparty at June 30, 2020
(dollars in millions)

Carrying Value(1)	Overnight
Domestic	$ 14,669
U.S. subsidiaries of foreign commercial banks	948
Total domestic and U.S. subsidiaries of foreign commercial banks	15,617
U.S. branches and agency offices of foreign commercial banks	
Canada	16,815
Australia	8,730
Sweden	7,900
Netherlands	6,557
Norway	4,285
Germany	2,925
Finland	2,780
France	800
Japan	500
Total U.S. branches and agency offices of foreign commercial banks	51,292
Total unsecured investment credit exposure	$ 66,909

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

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

In addition to credit risk associated with mortgage loans purchased or funded through the AMA programs, the FHLBanks are exposed to the risk of non-performance of mortgage insurers that provide primary mortgage insurance and supplemental mortgage insurance coverage on mortgage loans.

The FHFA's AMA regulation on credit risk sharing allows an FHLBank to utilize its choice of model and methodology to determine the credit enhancement for AMA loan assets and pool loans. The assets delivered must be credit enhanced by the members up to an FHLBank determined "AMA investment-grade" instead of a specific nationally recognized statistical rating organization's ratings.

Due to the negative economic impacts associated with the COVID-19 pandemic, including high unemployment as a result of widespread business closures, the FHLBanks have implemented temporary relief provisions for MPP and MPF Program loans, including forbearance under the CARES Act, temporary moratoriums on foreclosures and evictions, and temporary alternative underwriting procedures.

Management at each FHLBank believes that it has adequate policies and procedures in place to manage credit risk on mortgage loans appropriately. (See *Note 5 - Mortgage Loans* to the accompanying combined financial statements for additional information about mortgage loan payment status, allowance for credit losses, and other delinquency statistics.)

See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Risk Management - Credit Risk - Mortgage Loans Held for Portfolio*, on pages 103 to 107 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for additional information on credit risk of mortgage loans held for portfolio, including loss allocation structures, mortgage insurance, and state concentrations for MPF Program and MPP loans.

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

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

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

Uncleared Derivatives. Each FHLBank is subject to the risk of non-performance by the counterparties to its uncleared derivative transactions. An FHLBank generally requires collateral on uncleared derivative transactions. Unless the collateral delivery threshold is set to zero, the amount of net unsecured credit exposure that is permissible with respect to each counterparty depends on the credit rating of that counterparty. A counterparty generally must deliver collateral if the total market value of the FHLBank's exposure to that counterparty rises above a specific threshold. As a result of these risk mitigation initiatives, the management of each FHLBank did not anticipate any credit losses on its uncleared derivative transactions as of June 30, 2020.

Cleared Derivatives. Each FHLBank is subject to the risk of non-performance by the Derivative Clearing Organization(s) (Clearinghouse) and the clearing agents. The requirement that an FHLBank posts initial and variation margin through the clearing agent, to the Clearinghouse, exposes an FHLBank to credit risk in the event that the clearing agent or the Clearinghouse fails to meet its obligations. However, the use of cleared derivatives is intended to mitigate an FHLBank's overall credit risk exposure because a central counterparty is substituted for individual counterparties and collateral/payment is posted daily for changes in the value of cleared derivatives through a clearing agent. Due to declines in market values of cleared derivatives during the three and six months ended June 30, 2020, there was an increase in variation margin posted on cleared derivatives to the Clearinghouses resulting in an increase in net cash used in operating activities reported on the Combined Statement of Cash Flows during the period. The management of each FHLBank did not anticipate any credit losses on its cleared derivatives as of June 30, 2020.

Table 34 presents the derivative positions with non-member counterparties and member institutions to which the FHLBanks had credit exposure at June 30, 2020. The ratings presented in this table represent the lowest long-term counterparty credit rating available for each counterparty of an individual FHLBank, based on the nationally recognized statistical rating organization(s) used by that FHLBank. Investors should not take the historical or current ratings displayed in this table as an indication of future ratings.

Table 34 - Derivative Counterparty Credit Exposure at June 30, 2020
(dollars in millions)

Credit Rating(1)	Notional Amount	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparties	Non-cash Collateral Pledged To (From) Counterparties	Net Credit Exposure to Counterparties
Non-member counterparties					
Asset positions with credit exposure					
Uncleared derivatives					
Double-A	$ 720	$ 1	$ (1)	$ —	$ —
Single-A	4,549	38	(24)	—	14
Triple-B	1,623	24	(23)	—	1
Cleared derivatives(2)	429,106	84	1,769	2,608	4,461
Liability positions with credit exposure					
Uncleared derivatives					
Double-A	586	(34)	34	—	—
Single-A	43,489	(2,917)	2,940	24	47
Triple-B	22,299	(1,440)	1,490	—	50
Cleared derivatives(2)	58,926	(3)	132	64	193
Total derivative positions with credit exposure to non-member counterparties	561,298	(4,247)	6,317	2,696	4,766
Member institutions(3)	2,896	23	—	—	23
Total	$ 564,194	$ (4,224)	$ 6,317	$ 2,696	$ 4,789

(1) This table does not reflect any changes in rating, outlook, or watch status occurring after June 30, 2020.
(2) Represents derivative transactions cleared with LCH Ltd. and CME Clearing, the FHLBanks' clearinghouses. LCH Ltd. is rated AA- by S&P and CME Clearing is not rated, but its parent company, CME Group Inc., is rated Aa3 by Moody's and AA- by S&P.
(3) Member institutions include mortgage delivery commitments and derivatives with members where an FHLBank is acting as an intermediary. Collateral held with respect to derivatives with member institutions where an FHLBank is acting as an intermediary represents the amount of eligible collateral physically held by or on behalf of the FHLBank or collateral assigned to the FHLBank, as evidenced by a written security agreement, and held by the member institution for the benefit of that FHLBank.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

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

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

Interest-Rate Risk

Interest-rate risk is the risk that relative and absolute changes in interest rates may adversely affect an institution's financial condition. The goal of an interest-rate risk management strategy is not necessarily to eliminate interest-rate risk, but to manage it by setting, and operating within, an appropriate framework and limits. The FHLBanks generally manage interest-rate risk by acquiring and maintaining a portfolio of assets and liabilities and entering into related derivative transactions to limit the expected mismatches in duration and market value of equity sensitivity. The FHLBanks measure and monitor interest-rate risk with commonly used methods, which include the calculations of market value of equity, duration of equity, and duration gap. (See *Quantitative and Qualitative Disclosures about Market Risk*, on pages 111 to 119 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for additional information.)

Transition from LIBOR to an Alternative Reference Rate

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

Many of the FHLBanks' assets and liabilities are indexed to LIBOR, with exposure extending past December 31, 2021. The FHLBanks have been evaluating and planning for the eventual replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as the dominant replacement. As a result, each of the FHLBanks and the Office of Finance has developed a LIBOR transition plan, which addresses considerations such as LIBOR exposure, fallback language, operational preparedness, and balance sheet management.

In assessing their current exposure to LIBOR, the FHLBanks have developed an inventory of affected financial instruments and identified contracts that may require adding or adjusting the fallback language, which includes advances, investment securities, consolidated bonds, and derivatives. The FHLBanks have added or adjusted fallback language related to a majority of their advances to members and have added or adjusted fallback language applicable to their consolidated bonds. The FHLBanks continue to monitor the market-wide efforts to address fallback language related to derivatives and investment securities, as well as fallback language for new activities and issuances of financial instruments. The FHLBanks are in the process of assessing their operational readiness, including updating their processes and information technology systems to support the transition from LIBOR to an alternative reference rate. In order to manage their balance sheet exposure to LIBOR-indexed assets and liabilities, including those with maturities beyond 2021, the FHLBanks continue to issue SOFR-indexed consolidated bonds and have begun to issue SOFR-linked advances. In addition, the FHLBanks have begun to execute derivative transactions to swap certain financial instruments to SOFR or other alternative reference rates.

Market activity in SOFR-indexed financial instruments continues to increase and the FHLBanks continue to issue SOFR-indexed consolidated bonds since the FHLBanks' initial issuance in the fourth quarter of 2018. During the six months ended June 30, 2020, the FHLBanks issued $125.9 billion in SOFR-linked consolidated bonds and during the year ended December 31, 2019, the FHLBanks issued $152.5 billion in SOFR-linked consolidated bonds. The FHLBanks continue to execute LIBOR-indexed derivative transactions to manage interest-rate risk and have implemented the Overnight Index Swap (OIS) as an alternative interest-rate hedging strategy for certain financial instruments rather than use LIBOR when entering into new derivative transactions. In addition, a SOFR-based derivative market has begun to emerge and certain FHLBanks have begun to use SOFR-based derivatives to manage interest-rate risk. The FHLBanks offer SOFR-linked advances to their members. During the six months ended June 30, 2020, the FHLBanks issued $10.1 billion in SOFR-linked advances and during the year ended December 31, 2019, the FHLBanks issued $2.3 billion in SOFR-linked advances.

In September 2019, the FHFA issued a Supervisory Letter to the FHLBanks providing LIBOR transition guidance. The Supervisory Letter states that by March 31, 2020, the FHLBanks should no longer enter into new financial assets, liabilities, and derivatives that reference LIBOR and mature after December 31, 2021, for all product types except investments. By December 31, 2019, the FHLBanks should stop purchasing investments that reference LIBOR and mature after December 31, 2021. On March 16, 2020, the FHFA extended to June 30, 2020, the FHLBanks' ability to enter into LIBOR-based instruments that mature after December 31, 2021, except for investments and option embedded products. (See *Financial Discussion and Analysis of Combined Financial Condition and Combined Results of Operations - Legislative and Regulatory Developments* on page 87 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019 for more information.)

The FHLBanks have LIBOR exposure related to advances, investment securities, consolidated bonds, and derivatives with interest rates indexed to LIBOR. Table 35 presents LIBOR-indexed variable-rate financial instruments and interest-rate swaps with LIBOR exposure at June 30, 2020 and December 31, 2019.

Table 35 - Financial Instruments and Interest-Rate Swaps with LIBOR Exposure
(*dollars in millions*)

	June 30, 2020			
	Due/Terminates in 2020	Due/Terminates in 2021	Due/Terminates in 2022 and Thereafter	Total
Assets with LIBOR exposure				
Advances by redemption term (principal amount)	$ 35,109	$ 49,574	$ 18,744	$ 103,427
Investment securities by contractual maturity (principal amount)(1)				
Non-mortgage-backed securities	388	160	7,032	7,580
Mortgage-backed securities	236	145	61,931	62,312
Total investment securities	624	305	68,963	69,892
LIBOR-indexed interest-rate swaps notional amount (receive leg)				
Cleared	37,583	47,505	75,280	160,368
Uncleared	1,646	2,636	59,425	63,707
Total interest-rate swaps	39,229	50,141	134,705	224,075
Total principal/notional amount	$ 74,962	$ 100,020	$ 222,412	$ 397,394
Liabilities with LIBOR exposure				
Consolidated bonds by contractual maturity (principal amount)	$ 85,030	$ 44,328	$ 250	$ 129,608
LIBOR-indexed interest-rate swaps notional amount (pay leg)				
Cleared	53,532	33,639	13,925	101,096
Uncleared	2,509	2,087	10,477	15,073
Total interest-rate swaps	56,041	35,726	24,402	116,169
Total principal/notional amount	$ 141,071	$ 80,054	$ 24,652	$ 245,777

	December 31, 2019			
	Due/Terminates in 2020	Due/Terminates in 2021	Due/Terminates in 2022 and Thereafter	Total
Assets with LIBOR exposure				
Advances by redemption term (principal amount)	$ 84,966	$ 34,577	$ 14,938	$ 134,481
Investment securities by contractual maturity (principal amount)(1)				
Non-mortgage-backed securities	1,166	160	7,445	8,771
Mortgage-backed securities	417	184	70,696	71,297
Total investment securities	1,583	344	78,141	80,068
LIBOR-indexed interest-rate swaps notional amount (receive leg)				
Cleared	59,346	33,455	76,002	168,803
Uncleared	4,900	3,759	53,698	62,357
Total interest-rate swaps	64,246	37,214	129,700	231,160
Total principal/notional amount	$ 150,795	$ 72,135	$ 222,779	$ 445,709
Liabilities with LIBOR exposure				
Consolidated bonds by contractual maturity (principal amount)	$ 197,533	$ 8,420	$ 544	$ 206,497
LIBOR-indexed interest-rate swaps notional amount (pay leg)				
Cleared	98,637	23,641	9,716	131,994
Uncleared	26,612	11,746	23,573	61,931
Total interest-rate swaps	125,249	35,387	33,289	193,925
Total principal/notional amount	$ 322,782	$ 43,807	$ 33,833	$ 400,422

(1) MBS and Federal Family Education Loan Program ABS are presented by contractual maturity. However, their expected maturities will likely differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment fees.

In addition to LIBOR-indexed interest-rate swaps included in Table 35, the FHLBanks have other derivatives with LIBOR exposure at June 30, 2020 and December 31, 2019. Table 36 presents the notional amount of other derivatives with LIBOR exposure at June 30, 2020 and December 31, 2019.

Table 36 - Notional Amount of Other Derivatives with LIBOR Exposure
(*dollars in millions*)

	June 30, 2020			
	Terminates in 2020	Terminates in 2021	Terminates in 2022 and Thereafter	Total
Interest-rate swaptions	$ 332	$ 1,106	$ 2,574	$ 4,012
Interest-rate caps or floors	485	4,005	7,538	12,028
Total notional amount of other derivatives with LIBOR exposure	$ 817	$ 5,111	$ 10,112	$ 16,040

	December 31, 2019			
	Terminates in 2020	Terminates in 2021	Terminates in 2022 and Thereafter	Total
Interest-rate swaptions	$ 2,925	$ 1,856	$ 1,364	$ 6,145
Interest-rate caps or floors	1,029	4,005	7,538	12,572
Total notional amount of other derivatives with LIBOR exposure	$ 3,954	$ 5,861	$ 8,902	$ 18,717

Market Value of Equity and Duration of Equity

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

Table 37 presents each FHLBank that includes quantitative market value of equity and duration of equity information in its individual 2020 Second Quarter SEC Form 10-Q.

Table 37 - Individual FHLBank's Market Value of Equity and Duration of Equity Disclosures

FHLBank	Market Value of Equity	Duration of Equity
Boston	(1)	(1)
New York	✓	✓
Pittsburgh	(2)	✓
Atlanta	✓	✓
Cincinnati	✓	✓
Indianapolis	✓	✓
Chicago	(3)	✓
Des Moines	(4)	(4)
Dallas	✓	(5)
Topeka	(6)	✓
San Francisco	✓	(7)

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(1) The FHLBank of Boston monitors and measures market value of equity, duration of equity, and duration gap, as described in its 2020 Second Quarter SEC Form 10-Q. In addition, the FHLBank of Boston also monitors adjusted market value of equity, adjusted duration of equity, and adjusted duration gap. See the FHLBank of Boston's 2020 Second Quarter SEC Form 10-Q for additional information.

(2) The FHLBank of Pittsburgh monitors and measures market value of equity to par value of capital stock, as described in its 2020 Second Quarter SEC Form 10-Q. In addition, the FHLBank of Pittsburgh also monitors return on equity spread volatility relative to a return on equity spread volatility limit, established and approved by its board of directors.

(3) The FHLBank of Chicago disclosed the dollar loss limits on changes in market value of equity under parallel interest rate shocks in its 2020 Second Quarter SEC Form 10-Q.

(4) Although the FHLBank of Des Moines measures and monitors market value of equity and duration of equity, those measures are not disclosed as key market risk measures. The FHLBank of Des Moines disclosed, in its 2020 Second Quarter SEC Form 10-Q, market value of capital stock (MVCS) sensitivity and projected income sensitivity as key market risk measures and MVCS and regulatory capital as its key capital adequacy measures.

(5) The FHLBank of Dallas monitors and measures duration of equity and duration gap, as described in its 2020 Second Quarter SEC Form 10-Q. In addition, the FHLBank of Dallas also monitors adjusted duration of equity and adjusted duration gap, which measurements more closely align the put dates on its putable advances with the projected call dates of associated interest-rate swaps. See the FHLBank of Dallas 2020 Second Quarter SEC Form 10-Q for additional information.

(6) The FHLBank of Topeka measures and monitors market value of equity (MVE); however, the FHLBank of Topeka measures market value risk in terms of its MVE in relation to its total regulatory capital stock outstanding instead of to its book value of equity. As described in its 2020 Second Quarter SEC Form 10-Q, the FHLBank of Topeka believes this is a reasonable metric because, as a cooperative, the metric reflects the market value of the FHLBank of Topeka relative to the book value of its capital stock.

(7) The FHLBank of San Francisco does not disclose duration of equity, rather it discloses a comparable metric, "Market Value of Capital Sensitivity" as a key market risk measure.

Table 38 presents the duration of equity reported by each FHLBank to the FHFA in accordance with the FHFA's guidance, which prescribes that down and up interest-rate shocks equal 200 basis points. However, the applicable guidance restricts the down rate from assuming a negative interest rate. Therefore, each FHLBank adjusts the down rate accordingly in periods of very low levels of interest rates.

Table 38 - Duration of Equity
(in years)

	June 30, 2020			December 31, 2019		
FHLBank	**Down**	**Base**	**Up**	**Down**	**Base**	**Up**
Boston	(0.6)	4.9	3.5	5.7	1.1	3.0
New York	0.2	(1.9)	0.5	0.1	(0.9)	0.4
Pittsburgh	2.1	0.2	3.5	1.5	0.1	2.3
Atlanta	2.9	0.4	2.8	0.5	0.4	2.4
Cincinnati	0.0	(1.2)	5.3	0.6	(1.2)	1.7
Indianapolis	(0.1)	1.1	2.5	2.0	2.4	0.5
Chicago	1.9	1.7	2.3	2.2	1.2	2.4
Des Moines	0.0	1.8	2.4	0.4	(0.1)	1.9
Dallas	(9.7)	(4.0)	(0.5)	(3.8)	(2.1)	1.4
Topeka	0.4	(3.9)	(1.5)	2.4	(0.9)	0.8
San Francisco	0.0	1.0	0.9	4.2	1.0	1.5

Duration Gap

A related measure of interest-rate risk is duration gap, which is the difference between the estimated durations (market value sensitivity) of assets and liabilities, and reflects the extent to which estimated maturity and repricing cash flows for assets and liabilities are matched. Duration gap determines the sensitivity of assets and liabilities to interest-rate changes. Each FHLBank has an internal modeling system for measuring its duration gap; therefore, individual FHLBank measurements may not be directly comparable. Duration generally indicates the expected change in an instrument's market value resulting from an increase or a decrease in interest rates. Higher duration numbers, whether positive or negative, indicate greater volatility in the market value of equity in response to changing interest rates. Duration gap numbers in Table 39 include the effect of derivative transactions.

Table 39 - Duration Gap
(in months)

FHLBank	June 30, 2020	December 31, 2019
Boston	3.5	0.7
New York	(1.4)	(0.8)
Pittsburgh	(0.2)	(0.2)
Atlanta	0.1	0.1
Cincinnati	(0.2)	(0.1)
Indianapolis	0.3	1.0
Chicago	1.2	0.8
Des Moines	0.7	(0.4)
Dallas	(2.6)	(1.5)
Topeka	(2.5)	(0.5)
San Francisco	0.7	0.7

Use of Derivatives to Manage Interest-Rate Risk

An FHLBank enters into derivatives to manage interest-rate risk, prepayment risk, and other exposure inherent in otherwise unhedged assets and funding positions. An FHLBank attempts to use derivatives to reduce interest-rate exposure in the most cost-efficient manner. Derivatives are also used to manage the effective maturity, repricing frequency, or option characteristics of financial instruments to achieve risk-management objectives. (See *Note 6 - Derivatives and Hedging Activities* to the accompanying combined financial statements for a discussion of managing interest-rate risk exposure and *Financial Discussion and Analysis - Combined Results of Operations* for the effect of derivatives and hedging activities on net interest income and non-interest income resulting from the FHLBanks' hedging strategies.)

Table 40 presents the notional amount of the pay and receive leg of interest-rate swaps by interest-rate index at June 30, 2020 and December 31, 2019. The pay and receive legs are equal as both sides of the derivative transaction are being presented. (See *Quantitative and Qualitative Disclosures about Market Risk* for more information on the transition from LIBOR and the use of SOFR as an alternative market benchmark.)

Table 40 - Notional Amount of Interest-Rate Swaps by Interest-Rate Index
(dollars in millions)

	June 30, 2020		December 31, 2019	
	Pay Leg	Receive Leg	Pay Leg	Receive Leg
Interest-Rate Index				
Fixed	$ 353,243	$ 166,086	$ 321,090	$ 252,154
LIBOR	116,169	224,075	193,925	231,160
OIS	63,509	112,806	93,691	71,901
SOFR	48,032	77,586	6,142	57,633
Other interest-rate index	5	405	5	2,005
Total notional amount of interest-rate swaps	$ 580,958	$ 580,958	$ 614,853	$ 614,853

In addition to the interest-rate swaps included in Table 40, the FHLBanks have other derivatives at June 30, 2020 and December 31, 2019. Table 41 presents the notional amount of other derivatives at June 30, 2020 and December 31, 2019.

Table 41 - Notional Amount of Other Derivatives
(dollars in millions)

	June 30, 2020	December 31, 2019
Interest-rate caps or floors	$ 12,031	$ 13,575
Mortgage delivery commitments	5,712	2,537
Interest-rate swaptions	4,012	6,995
Interest-rate futures or forwards	403	1,141
Other	411	187
Total notional amount of other derivatives	$ 22,569	$ 24,435

CONTROLS AND PROCEDURES

FHLBanks

The management of each FHLBank is required under applicable laws and regulations to establish and maintain effective disclosure controls and procedures as well as effective internal control over financial reporting, as such disclosure controls and procedures and internal control over financial reporting relate to that FHLBank only. Each FHLBank's management assessed the effectiveness of its individual internal control over financial reporting as of December 31, 2019 based on the criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management of each FHLBank, other than the FHLBank of Des Moines, concluded, as of December 31, 2019 that its individual internal control over financial reporting was effective based on the criteria established in *Internal Control-Integrated Framework.* Additionally, the independent registered public accounting firm of each FHLBank, other than the FHLBank of Des Moines, opined that the respective individual FHLBank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019. (See *Part II. Item 8 - Financial Statements and Supplementary Data* or *Item 9A - Controls and Procedures* of each FHLBank's 2019 SEC Form 10-K for its *Management's Report on Internal Control over Financial Reporting*.)

The management of each FHLBank, other than the FHLBank of Des Moines, concluded that its disclosure controls and procedures were effective at a reasonable assurance level as of the end of the period covered by its 2020 Second Quarter SEC Form 10-Q. Additionally, each FHLBank indicated that there were no changes to its internal control over financial reporting during the quarter ended June 30, 2020, that materially affected, or are reasonably likely to materially affect, its internal control over financial reporting. (See *Part I. Item 4 - Controls and Procedures* of each FHLBank's 2020 Second Quarter SEC Form 10-Q.)

FHLBank of Des Moines

The FHLBank of Des Moines' management concluded that it had two material weaknesses in its internal control over financial reporting as of December 31, 2019: (1) ineffective user access controls needed to ensure appropriate segregation of duties and adequate restrictions on user and privileged access to the FHLBank's information technology applications, programs, and data, and (2) ineffective control over information technology change management, including controls to monitor developers' access to production and testing of program changes. (See *Part II. Item 8 - Financial Statements and Supplementary Data and Item 9A - Controls and Procedures* of the FHLBank of Des Moines' 2019 SEC Form 10-K for additional information.)

The FHLBank of Des Moines' management concluded, based on its identification of material weaknesses in its internal control over financial reporting at December 31, 2019, that its disclosure controls and procedures were not effective at a reasonable assurance level as of the end of the period covered by its 2020 Second Quarter SEC Form 10-Q. (See *Part I. Item 4 - Controls and Procedures* of the FHLBank of Des Moines' 2020 Second Quarter SEC Form 10-Q for additional information, including its status of remediation.)

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

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

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

Audit Committee Charter

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

LEGAL PROCEEDINGS

The FHLBanks are subject to various pending legal proceedings arising in the normal course of business. The FHLBanks and the Office of Finance do not believe they are a party to, or subject to, any pending legal proceedings where the ultimate liability of the FHLBanks, if any, arising out of these proceedings is likely to have a material effect on the results of operations, financial condition, or liquidity of the FHLBanks on a combined basis or that are otherwise material to the FHLBanks on a combined basis. (See each FHLBank's 2020 Second Quarter SEC Form 10-Q under *Part II. Item 1 - Legal Proceedings* for additional information, including updates, to its legal proceedings.)

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

As of June 30, 2020, each of the FHLBanks of Boston, Chicago, and Des Moines is a plaintiff in continued legal proceedings that relate to the purchases of certain private-label MBS. Defendants in these lawsuits include entities and their affiliates that buy, sell, or distribute the FHLBanks' consolidated obligations or are derivative counterparties. These defendants and their affiliates may be members or former members of the plaintiff FHLBanks or other FHLBanks.

RISK FACTORS

There were no material changes to the risk factors disclosed on pages 22 to 30 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, and as updated on page 63 of the Federal Home Loan Banks Combined Financial Report for the quarterly period ended March 31, 2020. (See each FHLBank's 2020 First Quarter and Second Quarter SEC Form 10-Qs for any updates to the risk factors included in the FHLBank's 2019 SEC Form 10-K under *Part I. Item 1A - Risk Factors*.)

MARKET FOR CAPITAL STOCK AND RELATED STOCKHOLDER MATTERS

As a cooperative, each FHLBank conducts its advances business and mortgage loan programs almost exclusively with its members. Members and certain former members own all of the FHLBanks' capital stock. There is no established marketplace for the FHLBanks' stock and it is not publicly traded. FHLBank stock is purchased by members at the stated par value of $100 per share and may be redeemed/repurchased at its stated par value of $100 per share, subject to applicable redemption periods and certain conditions and limitations. (See *Business - Capital, Capital Rules, and Dividends*, on pages 12 to 15 of the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for more information on the restrictions on capital stock redemptions and repurchases.)

At June 30, 2020, the FHLBanks had 332 million shares of capital stock outstanding, including mandatorily redeemable capital stock. The FHLBanks are not required to register their securities under the Securities Act of 1933, as amended; however, each FHLBank is required to register a class of its stock under the Securities Exchange Act of 1934, as amended. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information on regulatory capital stock and mandatorily redeemable capital stock.)

Table 42 presents combined regulatory capital stock, which includes mandatorily redeemable capital stock, held by type of member and FHLBank membership by type of member.

Table 42 - Regulatory Capital Stock Held and Membership by Type of Member
(dollars in millions)

	June 30, 2020		December 31, 2019	
	Regulatory Capital Stock Amount	Number of Members	Regulatory Capital Stock Amount	Number of Members
Commercial banks	$ 17,480	3,957	$ 20,664	4,020
Insurance companies	6,153	492	5,185	471
Savings institutions	4,379	637	4,532	662
Credit unions	4,054	1,546	4,098	1,526
Community development financial institutions	19	61	16	60
Total	32,085	6,693	34,495	6,739
Mandatorily redeemable capital stock	1,097		1,378	
Total combined regulatory capital stock	$ 33,182		$ 35,873	

Figures 30 and 31 present the percentage of regulatory capital stock held, and membership, by type of member at June 30, 2020.

Figure 30 - Percentage of Regulatory Capital Stock Held by Type of Member

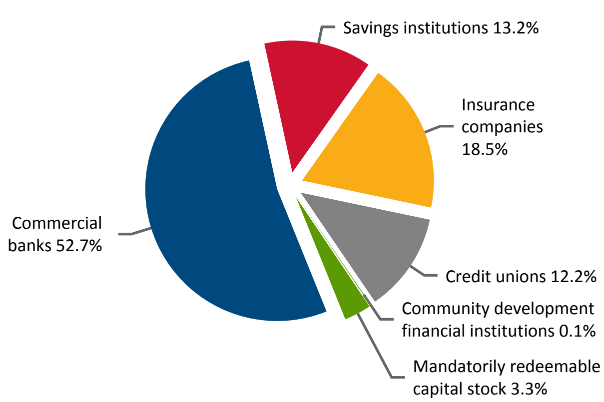
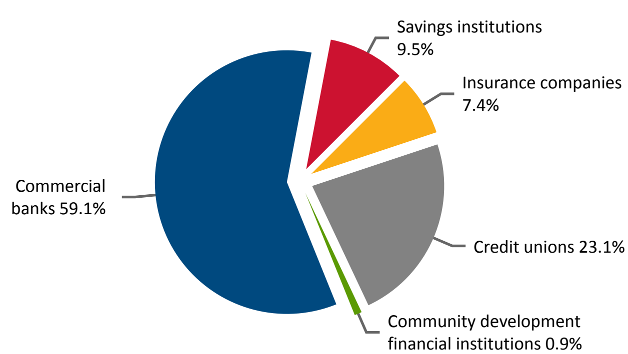


Figure 31 - Percentage of Membership by Type of Member



The information on regulatory capital stock presented in Table 43 is accumulated at the holding-company level. The percentage of total regulatory capital stock identified in Table 43 for each holding company was computed by dividing all regulatory capital stock owned by subsidiaries of that holding company by total combined regulatory capital stock. These percentage concentrations do not represent ownership concentrations in an individual FHLBank.

Table 43 - Top 10 Regulatory Capital Stockholders by Holding Company at June 30, 2020
(dollars in millions)

Holding Company Name(1)	FHLBank Districts(2)	Regulatory Capital Stock(3)	Percentage of Total Regulatory Capital Stock	Mandatorily Redeemable Capital Stock
Citigroup Inc.	New York	$ 1,290	3.9%	$ —
JPMorgan Chase & Co.	Cincinnati, Pittsburgh, Chicago, San Francisco, Des Moines	1,250	3.8%	616
MetLife, Inc.	New York, Boston, Des Moines	849	2.6%	4
U.S. Bancorp	Cincinnati, Des Moines	685	2.1%	1
New York Community Bancorp, Inc.	New York	669	2.0%	—
TIAA	Atlanta, New York	569	1.7%	—
Ally Financial Inc.	Pittsburgh	551	1.7%	—
First Republic Bank	San Francisco	478	1.4%	—
Navy Federal Credit Union	Atlanta	400	1.2%	—
The PNC Financial Services Group, Inc.	Pittsburgh, Cincinnati, Atlanta	396	1.2%	11
		$ 7,137	21.6%	$ 632

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(1) Holding company information was obtained from the Federal Reserve System's web site, the National Information Center (NIC), and SEC filings. The NIC is a central repository of data about banks and other institutions for which the Federal Reserve System has a supervisory, regulatory, or research interest, including both domestic and foreign banking organizations operating in the United States.
(2) At June 30, 2020, each holding company had subsidiaries with regulatory capital stock holdings in these FHLBank districts.
(3) Includes FHLBank capital stock that is considered to be mandatorily redeemable, which is classified as a liability under GAAP.

SUPPLEMENTAL INFORMATION

Individual Federal Home Loan Bank Selected Financial Data and Financial Ratios

The following individual Federal Home Loan Bank (FHLBank) selected financial data and financial ratios are provided as a convenience to the reader. Please refer to *Explanatory Statement about Federal Home Loan Banks Combined Financial Report*, which discusses the independent management and operation of the FHLBanks; identifies the availability of other information about the FHLBanks; and describes where to find the periodic reports and other information filed by each FHLBank with the SEC.

Individual FHLBank Selected Financial Data and Financial Ratios

(dollars in millions)	Boston	New York	Pittsburgh
Selected Statement of Condition Data(1)			
At June 30, 2020			
Assets			
Investments(2)(3)	$ 16,286	$ 41,376	$ 22,333
Advances	24,828	113,789	49,614
Mortgage loans held for portfolio	4,416	3,172	5,248
Allowance for credit losses on mortgage loans	(5)	(7)	(6)
Total assets	46,161	158,872	77,975
Consolidated obligations(3)			
Discount notes	17,309	89,500	26,052
Bonds	24,563	59,032	46,582
Total consolidated obligations	41,872	148,532	72,634
Mandatorily redeemable capital stock	6	4	304
Total capital			
Capital stock(4)	1,519	6,334	2,371
Retained earnings	1,455	1,884	1,334
Accumulated other comprehensive income (loss)	(128)	(80)	114
Total capital	2,846	8,138	3,819
Asset composition (as a percentage of the individual FHLBank's total assets)			
Investments(2)(3)	35.3%	26.0%	28.6%
Advances	53.8%	71.6%	63.6%
Mortgage loans held for portfolio, net	9.6%	2.0%	6.7%
Total retained earnings as a percentage of FHLBank's total assets	3.2%	1.2%	1.7%
FHLBank's total assets as a percentage of FHLBank System's total assets	4.7%	16.0%	7.9%
At June 30, 2019			
Assets			
Investments(2)(3)	$ 13,963	$ 44,418	$ 25,515
Advances	37,097	102,429	81,827
Mortgage loans held for portfolio	4,422	2,987	4,675
Allowance for credit losses on mortgage loans	(1)	(1)	(8)
Total assets	55,780	150,574	112,521
Consolidated obligations(3)			
Discount notes	26,425	62,380	35,010
Bonds	25,293	78,729	70,881
Total consolidated obligations	51,718	141,109	105,891
Mandatorily redeemable capital stock	17	6	344
Total capital			
Capital stock(4)	1,995	5,841	3,643
Retained earnings	1,417	1,748	1,299
Accumulated other comprehensive income (loss)	(238)	(42)	114
Total capital	3,174	7,547	5,056
Asset composition (as a percentage of the individual FHLBank's total assets)			
Investments(2)(3)	25.0%	29.5%	22.7%
Advances	66.5%	68.0%	72.7%
Mortgage loans held for portfolio, net	7.9%	2.0%	4.1%
Total retained earnings as a percentage of individual FHLBank's total assets	2.5%	1.2%	1.2%
FHLBank's total assets as a percentage of FHLBank System's total assets	5.0%	13.4%	10.0%

(1) The sum or recalculation of individual FHLBank amounts may not agree or may not be recalculated from the Combined Statement of Condition amounts due to combining adjustments.

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

(3) See *Note 1 - Summary of Significant Accounting Policies - Basis of Presentation* on pages F-12 to F-13 of the audited combined financial statements included in the Federal Home Loan Banks Combined Financial Report for the year ended December 31, 2019, for more information about the elimination of interbank transactions.

(4) FHLBank capital stock is redeemable at the request of a member subject to the statutory redemption periods and other conditions and limitations. (See *Note 9 - Capital* to the accompanying combined financial statements for additional information on the statutory redemption periods and other conditions and limitations.)

Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
$ 54,167	$ 29,533	$ 25,509	$ 36,005	$ 34,315	$ 32,000	$ 20,634	$ 39,029
67,221	48,913	34,848	49,250	57,942	38,643	21,529	50,970
264	11,704	10,083	10,951	9,247	4,025	10,954	2,893
(1)	—	—	(4)	(1)	(5)	(8)	(5)
126,596	90,645	71,070	96,731	102,485	74,960	53,534	93,440
58,295	44,324	28,234	37,440	21,364	35,978	13,561	19,416
59,925	39,339	36,973	51,760	72,748	32,695	36,446	66,449
118,220	83,663	65,207	89,200	94,112	68,673	50,007	85,865
1	19	300	289	81	7	2	83
3,680	3,813	2,194	1,837	3,802	2,474	1,392	2,668
2,200	1,247	1,128	3,873	2,257	1,340	997	3,494
(18)	(16)	(4)	(363)	(60)	(172)	(34)	(35)
5,862	5,044	3,318	5,347	5,999	3,642	2,355	6,127
42.8%	32.6%	35.9%	37.2%	33.5%	42.7%	38.5%	41.8%
53.1%	54.0%	49.0%	50.9%	56.5%	51.6%	40.2%	54.5%
0.2%	12.9%	14.2%	11.3%	9.0%	5.4%	20.4%	3.1%
1.7%	1.4%	1.6%	4.0%	2.2%	1.8%	1.9%	3.7%
12.8%	9.1%	7.2%	9.7%	10.3%	7.6%	5.4%	9.4%
$ 46,645	$ 42,444	$ 24,442	$ 36,739	$ 39,140	$ 32,406	$ 19,443	$ 35,180
101,776	42,869	33,891	51,141	101,288	38,779	31,099	67,189
329	10,640	11,364	8,266	8,325	3,035	9,193	3,327
(1)	(1)	(1)	(1)	(1)	(1)	(1)	—
149,692	96,424	70,150	96,559	149,474	74,518	60,078	106,762
64,833	41,493	22,645	44,893	36,934	39,657	27,163	24,901
75,468	48,780	42,727	43,941	103,223	29,481	29,517	73,915
140,301	90,273	65,372	88,834	140,157	69,138	56,680	98,816
1	23	174	323	203	7	3	138
5,196	3,806	2,049	1,678	5,304	2,583	1,599	2,967
2,138	1,037	1,093	3,663	2,120	1,156	950	3,397
36	(12)	57	41	53	80	32	300
7,370	4,831	3,199	5,382	7,477	3,819	2,581	6,664
31.2%	44.0%	34.8%	38.0%	26.2%	43.5%	32.4%	33.0%
68.0%	44.5%	48.3%	53.0%	67.8%	52.0%	51.8%	62.9%
0.2%	11.0%	16.2%	8.6%	5.6%	4.1%	15.3%	3.1%
1.4%	1.1%	1.6%	3.8%	1.4%	1.6%	1.6%	3.2%
13.3%	8.6%	6.3%	8.6%	13.3%	6.6%	5.4%	9.5%

Individual FHLBank Selected Financial Data and Financial Ratios (continued)

(dollars in millions)	Boston	New York	Pittsburgh
Selected Other Data			
June 30, 2020			
Advance concentrations - top five borrowers	21%	60%	74%
Regulatory capital stock concentrations - top five stockholders	17%	53%	63%
Regulatory capital-to-assets ratio(5)	6.5%	5.2%	5.1%
Cash and stock dividends			
Quarter-to-date June 30, 2020	$ 24	$ 86	$ 40
Quarter-to-date June 30, 2019	$ 31	$ 88	$ 73
Year-to-date June 30, 2020	$ 48	$ 174	$ 97
Year-to-date June 30, 2019	$ 68	$ 189	$ 143
Weighted average dividend rate			
Quarter-to-date June 30, 2020	5.06%	5.60%	6.06%
Quarter-to-date June 30, 2019	6.22%	6.35%	7.46%
Year-to-date June 30, 2020	5.26%	5.75%	6.76%
Year-to-date June 30, 2019	6.19%	6.35%	7.45%
Return on average equity(6)			
Quarter-to-date June 30, 2020	0.36%	6.45%	5.89%
Quarter-to-date June 30, 2019	4.77%	5.77%	5.61%
Year-to-date June 30, 2020	2.82%	6.04%	4.62%
Year-to-date June 30, 2019	5.88%	6.63%	6.66%
Return on average assets			
Quarter-to-date June 30, 2020	0.02%	0.32%	0.26%
Quarter-to-date June 30, 2019	0.27%	0.29%	0.27%
Year-to-date June 30, 2020	0.15%	0.29%	0.21%
Year-to-date June 30, 2019	0.32%	0.34%	0.33%
Net interest margin(7)			
Quarter-to-date June 30, 2020	0.31%	0.53%	0.45%
Quarter-to-date June 30, 2019	0.43%	0.44%	0.45%
Year-to-date June 30, 2020	0.25%	0.47%	0.43%
Year-to-date June 30, 2019	0.52%	0.48%	0.48%
Net interest spread			
Quarter-to-date June 30, 2020	0.26%	0.49%	0.42%
Quarter-to-date June 30, 2019	0.29%	0.32%	0.33%
Year-to-date June 30, 2020	0.18%	0.40%	0.38%
Year-to-date June 30, 2019	0.37%	0.35%	0.36%

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(5) The regulatory capital-to-assets ratio is calculated based on the FHLBank's total regulatory capital as a percentage of total assets held at period-end. (See *Note 9 - Capital* to the accompanying combined financial statements for a definition and discussion of regulatory capital.)

(6) Return on average equity is net income expressed as a percentage of average total capital. Mandatorily redeemable capital stock is not included in the calculation of return on average equity.

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

Atlanta	Cincinnati	Indianapolis	Chicago	Des Moines	Dallas	Topeka	San Francisco
50%	64%	39%	52%	31%	36%	48%	64%
40%	46%	38%	39%	20%	26%	42%	35%
4.7%	5.6%	5.1%	6.2%	6.0%	5.1%	4.5%	6.7%
$ 70	$ 22	$ 20	$ 20	$ 53	$ 12	$ 15	$ 38
$ 81	$ 58	$ 26	$ 21	$ 68	$ 19	$ 24	$ 52
$ 146	$ 43	$ 41	$ 41	$ 112	$ 27	$ 40	$ 90
$ 166	$ 123	$ 52	$ 42	$ 138	$ 38	$ 48	$ 102
5.53%	2.50%	4.00%	4.53%	4.88%	1.99%	3.69%	5.00%
6.54%	5.50%	5.50%	4.67%	5.25%	3.07%	6.56%	7.00%
5.73%	2.50%	4.13%	4.60%	5.01%	2.19%	4.85%	5.99%
6.50%	5.76%	5.50%	4.72%	5.25%	3.01%	6.56%	7.00%
3.01%	7.12%	1.64%	3.41%	5.58%	6.99%	3.20%	5.66%
5.12%	5.09%	4.45%	5.30%	5.13%	5.66%	5.13%	2.91%
4.47%	7.04%	2.70%	4.39%	5.54%	6.22%	2.45%	2.47%
5.41%	5.34%	4.41%	5.45%	5.64%	5.94%	6.93%	4.61%
0.14%	0.37%	0.07%	0.20%	0.31%	0.32%	0.14%	0.32%
0.25%	0.26%	0.20%	0.31%	0.26%	0.31%	0.22%	0.18%
0.21%	0.36%	0.12%	0.25%	0.30%	0.30%	0.11%	0.15%
0.27%	0.27%	0.21%	0.32%	0.29%	0.33%	0.31%	0.28%
0.22%	0.58%	0.37%	0.54%	0.43%	0.53%	0.39%	0.51%
0.36%	0.40%	0.35%	0.48%	0.40%	0.36%	0.35%	0.41%
0.23%	0.47%	0.37%	0.55%	0.39%	0.40%	0.38%	0.35%
0.38%	0.44%	0.36%	0.49%	0.42%	0.39%	0.41%	0.47%
0.21%	0.55%	0.33%	0.50%	0.37%	0.49%	0.35%	0.48%
0.24%	0.27%	0.21%	0.35%	0.27%	0.21%	0.24%	0.26%
0.19%	0.42%	0.30%	0.49%	0.30%	0.34%	0.31%	0.28%
0.27%	0.31%	0.22%	0.35%	0.29%	0.24%	0.30%	0.32%

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