

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

Form 10-Q

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

For the quarterly period ended September 30, 2017

or

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

For the transition period from _____ to _____.

Commission File No. 000-51399

FEDERAL HOME LOAN BANK OF CINCINNATI

(Exact name of registrant as specified in its charter)

Federally chartered corporation

(State or other jurisdiction of
incorporation or organization)

600 Atrium Two, P.O. Box 598,

Cincinnati, Ohio

(Address of principal executive offices)

31-6000228

(I.R.S. Employer
Identification No.)

45201-0598

(Zip Code)

(513) 852-7500

(Registrant's telephone number, including area code)

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

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

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

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

Yes No

As of October 31, 2017, the registrant had 42,631,596 shares of capital stock outstanding, which included stock classified as mandatorily redeemable. The capital stock of the registrant is not listed on any securities exchange or quoted on any automated quotation system, only may be owned by members and former members and is transferable only at its par value of \$100 per share.

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements.

**FEDERAL HOME LOAN BANK OF CINCINNATI
STATEMENTS OF CONDITION
(In thousands, except par value)
(Unaudited)**

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
ASSETS		
Cash and due from banks	\$ 8,383	\$ 8,737
Interest-bearing deposits	154	129
Securities purchased under agreements to resell	1,804,271	5,229,487
Federal funds sold	10,410,000	4,257,000
Investment securities:		
Trading securities	835	970
Available-for-sale securities	550,017	1,300,023
Held-to-maturity securities (includes \$0 and \$0 pledged as collateral at September 30, 2017 and December 31, 2016, respectively, that may be replugged) ^(a)	14,809,839	14,546,979
Total investment securities	<u>15,360,691</u>	<u>15,847,972</u>
Advances (includes \$15,052 and \$15,093 at fair value under fair value option at September 30, 2017 and December 31, 2016, respectively)	67,943,456	69,882,074
Mortgage loans held for portfolio:		
Mortgage loans held for portfolio	9,504,556	9,149,860
Less: allowance for credit losses on mortgage loans	1,300	1,142
Mortgage loans held for portfolio, net	<u>9,503,256</u>	<u>9,148,718</u>
Accrued interest receivable	126,411	109,886
Premises, software, and equipment, net	8,461	9,187
Derivative assets	79,510	104,753
Other assets	5,922	37,338
TOTAL ASSETS	<u>\$ 105,250,515</u>	<u>\$ 104,635,281</u>
LIABILITIES		
Deposits	\$ 617,674	\$ 765,879
Consolidated Obligations:		
Discount Notes	49,539,728	44,689,662
Bonds (includes \$5,810,798 and \$7,895,510 at fair value under fair value option at September 30, 2017 and December 31, 2016, respectively)	49,298,385	53,190,866
Total Consolidated Obligations	<u>98,838,113</u>	<u>97,880,528</u>
Mandatorily redeemable capital stock	31,414	34,782
Accrued interest payable	137,272	119,322
Affordable Housing Program payable	106,600	104,883
Derivative liabilities	3,669	17,874
Other liabilities	383,625	733,918
Total liabilities	<u>100,118,367</u>	<u>99,657,186</u>
Commitments and contingencies (Note 19)		
CAPITAL		
Capital stock Class B putable (\$100 par value); issued and outstanding shares: 42,296 shares at September 30, 2017 and 41,569 shares at December 31, 2016	4,229,550	4,156,944
Retained earnings:		
Unrestricted	608,393	574,122
Restricted	306,187	260,285
Total retained earnings	<u>914,580</u>	<u>834,407</u>
Accumulated other comprehensive loss	(11,982)	(13,256)
Total capital	<u>5,132,148</u>	<u>4,978,095</u>
TOTAL LIABILITIES AND CAPITAL	<u>\$ 105,250,515</u>	<u>\$ 104,635,281</u>

(a) Fair values: \$14,757,413 and \$14,413,231 at September 30, 2017 and December 31, 2016, respectively.

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
INTEREST INCOME:				
Advances	\$ 251,094	\$ 146,600	\$ 647,538	\$ 418,608
Prepayment fees on Advances, net	761	5,136	1,206	9,211
Interest-bearing deposits	66	82	107	238
Securities purchased under agreements to resell	6,005	2,388	17,364	6,145
Federal funds sold	24,402	8,189	46,167	27,049
Investment securities:				
Trading securities	4	4	14	15
Available-for-sale securities	1,754	1,708	4,503	3,997
Held-to-maturity securities	78,526	80,173	227,430	247,387
Total investment securities	80,284	81,885	231,947	251,399
Mortgage loans held for portfolio	74,716	64,254	221,432	196,146
Total interest income	437,328	308,534	1,165,761	908,796
INTEREST EXPENSE:				
Consolidated Obligations:				
Discount Notes	124,116	37,773	260,452	137,072
Bonds	200,519	176,190	580,705	503,026
Total Consolidated Obligations	324,635	213,963	841,157	640,098
Deposits	1,339	301	3,124	881
Loans from other FHLBanks	—	—	6	—
Mandatorily redeemable capital stock	956	877	2,035	2,969
Total interest expense	326,930	215,141	846,322	643,948
NET INTEREST INCOME	110,398	93,393	319,439	264,848
Provision for credit losses	500	—	500	—
NET INTEREST INCOME AFTER PROVISION FOR CREDIT LOSSES	109,898	93,393	318,939	264,848
NON-INTEREST (LOSS) INCOME:				
Net losses on trading securities	(1)	(3)	(5)	(2)
Net gains (losses) on financial instruments held under fair value option	87	9,734	(12,371)	(23,213)
Net (losses) gains on derivatives and hedging activities	(6,685)	(17,627)	(1,541)	10,403
Standby Letters of Credit fees	2,815	3,039	8,494	9,269
Other, net	574	670	1,556	1,783
Total non-interest (loss) income	(3,210)	(4,187)	(3,867)	(1,760)
NON-INTEREST EXPENSE:				
Compensation and benefits	12,105	10,722	34,349	31,500
Other operating expenses	4,821	6,053	14,395	17,905
Finance Agency	1,640	1,535	4,921	4,604
Office of Finance	1,037	1,062	3,157	3,280
Other	627	2,100	3,014	6,830
Total non-interest expense	20,230	21,472	59,836	64,119
INCOME BEFORE ASSESSMENTS	86,458	67,734	255,236	198,969
Affordable Housing Program assessments	8,741	6,861	25,727	20,194
NET INCOME	\$ 77,717	\$ 60,873	\$ 229,509	\$ 178,775

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net income	\$ 77,717	\$ 60,873	\$ 229,509	\$ 178,775
Other comprehensive income adjustments:				
Net unrealized gains (losses) on available-for-sale securities	13	161	(6)	147
Pension and postretirement benefits	427	591	1,280	1,772
Total other comprehensive income adjustments	440	752	1,274	1,919
Comprehensive income	<u>\$ 78,157</u>	<u>\$ 61,625</u>	<u>\$ 230,783</u>	<u>\$ 180,694</u>

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

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

	Capital Stock Class B - Putable		Retained Earnings			Accumulated Other Comprehensive	Total
	Shares	Par Value	Unrestricted	Restricted	Total	Loss	Capital
BALANCE, DECEMBER 31, 2015	44,288	\$ 4,428,756	\$ 530,998	\$ 206,648	\$ 737,646	\$ (13,277)	\$ 5,153,125
Comprehensive income			143,020	35,755	178,775	1,919	180,694
Proceeds from sale of capital stock	548	54,844					54,844
Net shares reclassified to mandatorily redeemable capital stock	(3,605)	(360,516)					(360,516)
Cash dividends on capital stock			(128,974)		(128,974)		(128,974)
BALANCE, SEPTEMBER 30, 2016	<u>41,231</u>	<u>\$ 4,123,084</u>	<u>\$ 545,044</u>	<u>\$ 242,403</u>	<u>\$ 787,447</u>	<u>\$ (11,358)</u>	<u>\$ 4,899,173</u>
BALANCE, DECEMBER 31, 2016	41,569	\$ 4,156,944	\$ 574,122	\$ 260,285	\$ 834,407	\$ (13,256)	\$ 4,978,095
Comprehensive income			183,607	45,902	229,509	1,274	230,783
Proceeds from sale of capital stock	3,421	342,009					342,009
Net shares reclassified to mandatorily redeemable capital stock	(2,694)	(269,403)					(269,403)
Cash dividends on capital stock			(149,336)		(149,336)		(149,336)
BALANCE, SEPTEMBER 30, 2017	<u>42,296</u>	<u>\$ 4,229,550</u>	<u>\$ 608,393</u>	<u>\$ 306,187</u>	<u>\$ 914,580</u>	<u>\$ (11,982)</u>	<u>\$ 5,132,148</u>

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

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

	Nine Months Ended September 30,	
	2017	2016
OPERATING ACTIVITIES:		
Net income	\$ 229,509	\$ 178,775
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	52,482	35,038
Net change in derivative and hedging activities	3,071	(21,517)
Net change in fair value adjustments on trading securities	5	2
Net change in fair value adjustments on financial instruments held under fair value option	12,371	23,213
Other adjustments	492	—
Net change in:		
Accrued interest receivable	(16,542)	(13,774)
Other assets	31,416	6,786
Accrued interest payable	13,885	17,614
Other liabilities	9,034	14,532
Total adjustments	<u>106,214</u>	<u>61,894</u>
Net cash provided by operating activities	<u>335,723</u>	<u>240,669</u>
INVESTING ACTIVITIES:		
Net change in:		
Interest-bearing deposits	32,613	(85,378)
Securities purchased under agreements to resell	3,425,216	8,243,008
Federal funds sold	(6,153,000)	5,350,000
Premises, software, and equipment	(1,474)	(1,375)
Trading securities:		
Proceeds from maturities of long-term	130	129
Available-for-sale securities:		
Net decrease in short-term	750,000	—
Held-to-maturity securities:		
Net (increase) decrease in short-term	(2,659)	1,439
Proceeds from maturities of long-term	1,689,076	2,116,533
Purchases of long-term	(2,308,841)	(1,985,981)
Advances:		
Proceeds	1,723,659,537	958,525,955
Made	(1,721,727,743)	(954,096,510)
Mortgage loans held for portfolio:		
Principal collected	910,123	1,148,622
Purchases	<u>(1,294,430)</u>	<u>(2,021,080)</u>
Net cash (used in) provided by investing activities	<u>(1,021,452)</u>	<u>17,195,362</u>

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

(continued from previous page)

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

	Nine Months Ended September 30,	
	2017	2016
FINANCING ACTIVITIES:		
Net change in deposits and pass-through reserves	\$ (159,879)	\$ (38,879)
Net payments on derivative contracts with financing elements	(3,700)	(14,343)
Net proceeds from issuance of Consolidated Obligations:		
Discount Notes	376,963,718	242,299,316
Bonds	16,837,655	44,356,127
Payments for maturing and retiring Consolidated Obligations:		
Discount Notes	(372,154,571)	(281,005,147)
Bonds	(20,717,750)	(22,726,053)
Proceeds from issuance of capital stock	342,009	54,844
Payments for repurchase/redemption of mandatorily redeemable capital stock	(272,771)	(229,119)
Cash dividends paid	(149,336)	(128,974)
Net cash provided by (used in) financing activities	685,375	(17,432,228)
Net (decrease) increase in cash and cash equivalents	(354)	3,803
Cash and cash equivalents at beginning of the period	8,737	10,136
Cash and cash equivalents at end of the period	<u>\$ 8,383</u>	<u>\$ 13,939</u>
Supplemental Disclosures:		
Interest paid	<u>\$ 810,434</u>	<u>\$ 645,493</u>
Affordable Housing Program payments, net	<u>\$ 24,010</u>	<u>\$ 27,638</u>

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

FEDERAL HOME LOAN BANK OF CINCINNATI

NOTES TO UNAUDITED FINANCIAL STATEMENTS

Background Information

The Federal Home Loan Bank of Cincinnati (the FHLB), a federally chartered corporation, is one of 11 District Federal Home Loan Banks (FHLBanks). The FHLBanks serve the public by enhancing the availability of credit for residential mortgages and targeted community development. The FHLB is regulated by the Federal Housing Finance Agency (Finance Agency).

Note 1 - Basis of Presentation

The accompanying interim financial statements of the FHLB have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The preparation of financial statements in accordance with GAAP requires management to make assumptions and estimates. These assumptions and estimates affect the reported amount of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expenses. Actual results could differ from these estimates. The interim financial statements presented are unaudited, but they include all adjustments (consisting of only normal recurring adjustments) which are, in the opinion of management, necessary for a fair statement of the financial condition, results of operations, and cash flows for such periods. These financial statements do not include all disclosures associated with annual financial statements and accordingly should be read in conjunction with the audited financial statements and notes included in the FHLB's Annual Report on Form 10-K for the year ended December 31, 2016 filed with the Securities and Exchange Commission (SEC). Results for the nine months ended September 30, 2017 are not necessarily indicative of operating results for the full year.

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

The net exposure for these financial instruments can change on a daily basis; therefore, there may be a delay between the time this exposure change is identified and additional collateral is requested, and the time this collateral is received or pledged. Likewise, there may be a delay for excess collateral to be returned. For derivative instruments that meet the requirements for netting, any excess cash collateral received or pledged is recognized as a derivative liability or derivative asset. Additional information regarding these agreements is provided in Note 10. Based on the fair value of the related collateral held, the securities purchased under agreements to resell were fully collateralized for the periods presented. For more information about the FHLB's investments in securities purchased under agreements to resell, see "Item 8. Financial Statements and Supplementary Data - Note 1 - Summary of Significant Accounting Policies" in the FHLB's 2016 Annual Report on Form 10-K.

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

Change in Accounting Principle. Effective October 1, 2016, the FHLB changed its method of accounting for the amortization and accretion of premiums and discounts and hedging basis adjustments on mortgage loans held for portfolio to the contractual interest method (contractual method). Historically, the FHLB deferred and amortized premiums and accreted discounts into interest income using the retrospective interest method (retrospective method), which used both actual prepayment experience and estimates of future principal repayments in calculating the estimated lives of the loans. While both the retrospective and contractual methods are acceptable under GAAP, the contractual method has become preferable for recognizing net unamortized premiums on mortgage loans held for portfolio because (i) it reduces the FHLB's reliance on subjective assumptions and estimates that affected the reported amounts of assets, capital and income in the financial statements and (ii) it represents the base accounting model articulated in GAAP applicable to accounting for the amortization of premiums and the accretion of discounts, whereas the retrospective method is only permitted by the guidance in narrowly defined circumstances.

The change to the contractual method for amortizing premiums and accreting discounts and hedging basis adjustments on mortgage loans has been reported through retroactive application of the change in accounting principle to all periods presented.

For the three and nine months ended September 30, 2016, the effect of this change was an increase to net income (in thousands) of \$3,486 and \$16,665, respectively.

The following tables illustrate the effect of the change in amortization and accretion method on the FHLB's financial statements as of and for the three and nine months ended September 30, 2016.

(In thousands)	As of and for the Three Months Ended September 30, 2016		
	Previous Method	New Method	Effect of Change
Statements of Income:			
Interest income - mortgage loans held for portfolio	\$ 60,381	\$ 64,254	\$ 3,873
Net interest income	89,520	93,393	3,873
Income before assessments	63,861	67,734	3,873
Affordable Housing Program assessments	6,474	6,861	387
Net income	57,387	60,873	3,486
Statements of Comprehensive Income:			
Net income	\$ 57,387	\$ 60,873	\$ 3,486
Comprehensive income	58,139	61,625	3,486

(In thousands)	As of and for the Nine Months Ended September 30, 2016		
	Previous Method	New Method	Effect of Change
Statements of Condition:			
Mortgage loans held for portfolio, net	\$ 8,820,321	\$ 8,810,907	\$ (9,414)
Total assets	101,556,057	101,546,643	(9,414)
Affordable Housing Program payable	98,056	99,908	1,852
Total liabilities	96,645,618	96,647,470	1,852
Retained earnings:			
Unrestricted	556,853	545,044	(11,809)
Restricted	241,860	242,403	543
Total retained earnings	798,713	787,447	(11,266)
Total capital	4,910,439	4,899,173	(11,266)
Total liabilities and capital	101,556,057	101,546,643	(9,414)
Statements of Income:			
Interest income - mortgage loans held for portfolio	\$ 177,629	\$ 196,146	\$ 18,517
Net interest income	246,331	264,848	18,517
Income before assessments	180,452	198,969	18,517
Affordable Housing Program assessments	18,342	20,194	1,852
Net income	162,110	178,775	16,665
Statements of Comprehensive Income:			
Net income	\$ 162,110	\$ 178,775	\$ 16,665
Comprehensive income	164,029	180,694	16,665
Statements of Capital:			
Total retained earnings, as of December 31, 2015	\$ 765,577	\$ 737,646	\$ (27,931)
Total comprehensive income	164,029	180,694	16,665
Total retained earnings, as of September 30, 2016	798,713	787,447	(11,266)
Total capital	4,910,439	4,899,173	(11,266)
Statements of Cash Flows:			
Operating activities:			
Net income	\$ 162,110	\$ 178,775	\$ 16,665
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	53,555	35,038	(18,517)
Changes in:			
Other liabilities	12,680	14,532	1,852
Total adjustments	78,559	61,894	(16,665)
Net cash provided by operating activities	240,669	240,669	—

Note 2 - Recently Issued Accounting Standards and Interpretations

Targeted Improvements to Accounting for Hedging Activities. On August 28, 2017, the Financial Accounting Standards Board (FASB) issued amended guidance to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. This guidance requires that, for fair value hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness be presented in the same income statement line that is used to present the earnings effect of the hedged item. For cash flow hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness must be recorded in other comprehensive income. In addition, the amendments include certain targeted improvements to the assessment of hedge

effectiveness. This guidance becomes effective for the FHLB for interim and annual periods beginning on January 1, 2019, and early adoption is permitted. The amended presentation and disclosure guidance is required only prospectively. The FHLB is in the process of evaluating this guidance, and its effect on the FHLB's financial condition, results of operations, and cash flows has not yet been determined.

Premium Amortization on Purchased Callable Debt Securities. On March 30, 2017, the FASB issued amended guidance to shorten the amortization period for certain purchased callable debt securities held at a premium. Specifically, the amendments require the premium to be amortized to the earliest call date. The amendments do not require an accounting change for securities held at a discount; the discount continues to be amortized to maturity. This guidance is effective for the FHLB for interim and annual periods beginning on January 1, 2019, and early adoption is permitted. This guidance should be applied using a modified retrospective method through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The FHLB does not intend to adopt this guidance early. The FHLB is in the process of evaluating this guidance, but its effect on the FHLB's financial condition, results of operations, and cash flows is not expected to be material.

Improving the Presentation of Net Periodic Pension and Postretirement Benefit Cost. On March 10, 2017, the FASB issued amended guidance that requires an employer to disaggregate the service cost component from the other components of net periodic pension and postretirement benefit costs (net benefit costs). The amendments also provide explicit guidance on how to present the service cost component and the other components of net benefit costs in the income statement and allow only the service cost component of net benefit cost to be eligible for capitalization. This guidance is effective for the FHLB for interim and annual periods beginning on January 1, 2018, and early adoption is permitted. This guidance should be applied retrospectively for the presentation of the service cost component and the other components of net benefit costs in the income statement. For the capitalization of the service cost component of net benefit costs, this guidance should be applied prospectively on and after the effective date. The adoption of this guidance is not expected to have a material impact on the FHLB's financial condition, results of operations, and cash flows.

Classification of Certain Cash Receipts and Cash Payments. On August 26, 2016, the FASB issued amendments to clarify guidance on the classification of certain cash receipts and payments in the Statement of Cash Flows. This guidance is intended to reduce existing diversity in practice in how certain cash receipts and cash payments are presented and classified on the Statement of Cash Flows. This guidance is effective for the FHLB for interim and annual periods beginning on January 1, 2018, and early adoption is permitted. This guidance should be applied using a retrospective transition method to each period presented. The FHLB does not intend to adopt the new guidance early. At this time, the FHLB does not expect the new guidance to have any impact on the FHLB's cash flows.

Measurement of Credit Losses on Financial Instruments. On June 16, 2016, the FASB issued amended guidance for the accounting of credit losses on financial instruments. The amendments require entities to immediately record the full amount of expected credit losses in their loan portfolios. The measurement of expected credit losses is based on relevant information about past events, 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 expanded disclosure requirements. The guidance is effective for the FHLB for interim and annual periods beginning on January 1, 2020. Early application is permitted as of the interim and annual reporting periods beginning after December 15, 2018. The guidance should be applied using a modified-retrospective approach, through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. In addition, entities are required to use a prospective transition approach for debt securities for which an other-than-temporary impairment had been recognized before the effective date. The FHLB does not intend to adopt the new guidance early. While the FHLB is still in the process of evaluating this guidance, the FHLB expects the guidance will result in an increase in the allowance for credit losses given the requirement to estimate losses for the entire estimated life of the financial asset. The extent of the impact on the FHLB's financial condition, results of operations, and cash flows will depend upon the composition of the FHLB's financial assets at the adoption date and the economic conditions and forecasts at that time.

Contingent Put and Call Options in Debt Instruments. On March 14, 2016, the FASB issued amendments to clarify the requirements for assessing whether contingent call (put) options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. The guidance requires entities to apply only the four-step decision sequence when assessing whether the economic characteristics and risks of call (put) options are clearly and closely related to the economic characteristics and risks of their debt hosts. Consequently, when a call (put) option is contingently exercisable, an entity does not have to assess whether the event that triggers the ability to exercise a call (put) option is related to interest rates or credit risks. This guidance became effective for the FHLB for the interim and annual periods beginning on January 1, 2017. The adoption of this guidance had no effect on the FHLB's financial condition, results of operations, and cash flows.

Leases. On February 25, 2016, the FASB issued guidance which requires recognition of lease assets and lease liabilities on the Statement of Condition and disclosure of key information about leasing arrangements. In particular, this guidance requires a lessee, of operating or finance leases, to recognize on the Statement of Condition a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term. However, for leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election not to recognize lease assets and lease liabilities. The guidance becomes effective for the FHLB for the interim and annual periods beginning on January 1, 2019, and early application is permitted. The guidance requires lessors and lessees to recognize and measure leases at the beginning of the earliest period presented in the financial statements using a modified retrospective approach. The FHLB does not intend to adopt the new guidance early. Upon adoption, the FHLB expects to report higher assets and liabilities as a result of including right-of-use assets and lease liabilities on its Statement of Condition. While the FHLB is still in the process of evaluating this guidance, the FHLB does not expect the new guidance to have a material impact on its financial condition, results of operations, and cash flows.

Recognition and Measurement of Financial Assets and Financial Liabilities. On January 5, 2016, the FASB issued amended guidance on certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This guidance includes, but is not limited to, the following:

- Requires an entity to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when the entity has elected the fair value option.
- Requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the Statement of Condition or the accompanying notes to the financial statements.
- Eliminates the requirement for public entities to disclose the method(s) and significant assumptions used to estimate the fair value for financial instruments measured at amortized cost on the Statement of Condition.

The guidance becomes effective for the FHLB for the interim and annual periods beginning on January 1, 2018, and early adoption is only permitted for certain provisions. The amendments, in general, should be applied by means of a cumulative-effect adjustment to the Statement of Condition as of the beginning of the period of adoption. The FHLB does not intend to adopt the new guidance early. While this guidance will affect the FHLB's disclosures, the FHLB does not expect the requirement to present the instrument-specific credit risk in other comprehensive income to have any effect on the FHLB's financial condition, results of operations, and cash flows.

Note 3 - Trading Securities

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

<u>Fair Value</u>	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Mortgage-backed securities:		
Other U.S. obligation single-family mortgage-backed securities	\$ 835	\$ 970
Total	<u>\$ 835</u>	<u>\$ 970</u>

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

	<u>Nine Months Ended September 30,</u>	
	<u>2017</u>	<u>2016</u>
Net losses on trading securities held at period end	\$ (5)	\$ (2)
Net losses on trading securities	<u>\$ (5)</u>	<u>\$ (2)</u>

Note 4 - Available-for-Sale Securities

Table 4.1 - Available-for-Sale Securities by Major Security Types (in thousands)

	September 30, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	\$ 550,000	\$ 17	\$ —	\$ 550,017
Total	<u>\$ 550,000</u>	<u>\$ 17</u>	<u>\$ —</u>	<u>\$ 550,017</u>

	December 31, 2016			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	\$ 1,300,000	\$ 38	\$ (15)	\$ 1,300,023
Total	<u>\$ 1,300,000</u>	<u>\$ 38</u>	<u>\$ (15)</u>	<u>\$ 1,300,023</u>

All securities outstanding with gross unrealized losses at December 31, 2016 were in a continuous unrealized loss position for less than 12 months.

Table 4.2 - Available-for-Sale Securities by Contractual Maturity (in thousands)

Year of Maturity	September 30, 2017		December 31, 2016	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due in one year or less	<u>\$ 550,000</u>	<u>\$ 550,017</u>	<u>\$ 1,300,000</u>	<u>\$ 1,300,023</u>

Table 4.3 - Interest Rate Payment Terms of Available-for-Sale Securities (in thousands)

	September 30, 2017	December 31, 2016
Amortized cost of available-for-sale securities:		
Fixed-rate	<u>\$ 550,000</u>	<u>\$ 1,300,000</u>

Realized Gains and Losses. The FHLB had no sales of securities out of its available-for-sale portfolio for the nine months ended September 30, 2017 or 2016.

Note 5 - Held-to-Maturity Securities
Table 5.1 - Held-to-Maturity Securities by Major Security Types (in thousands)

	September 30, 2017			
	Amortized Cost ⁽¹⁾	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Fair Value
Non-mortgage-backed securities:				
U.S. Treasury obligations	\$ 33,938	\$ 1	\$ —	\$ 33,939
Total non-mortgage-backed securities	33,938	1	—	33,939
Mortgage-backed securities:				
Other U.S. obligation single-family mortgage-backed securities	2,720,628	5,538	(11,312)	2,714,854
Government-sponsored enterprises (GSE) single-family mortgage-backed securities	7,058,885	44,276	(93,744)	7,009,417
GSE multi-family mortgage-backed securities	4,996,388	4,111	(1,296)	4,999,203
Total mortgage-backed securities	14,775,901	53,925	(106,352)	14,723,474
Total	\$ 14,809,839	\$ 53,926	\$ (106,352)	\$ 14,757,413
December 31, 2016				
	Amortized Cost ⁽¹⁾	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Fair Value
Non-mortgage-backed securities:				
GSE	\$ 31,279	\$ 1	\$ —	\$ 31,280
Total non-mortgage-backed securities	31,279	1	—	31,280
Mortgage-backed securities:				
Other U.S. obligation single-family mortgage-backed securities	3,183,219	3,653	(23,151)	3,163,721
GSE single-family mortgage-backed securities	8,186,733	36,161	(147,494)	8,075,400
GSE multi-family mortgage-backed securities	3,145,748	988	(3,906)	3,142,830
Total mortgage-backed securities	14,515,700	40,802	(174,551)	14,381,951
Total	\$ 14,546,979	\$ 40,803	\$ (174,551)	\$ 14,413,231

(1) Carrying value equals amortized cost.

Table 5.2 - Net Purchased Premiums Included in the Amortized Cost of Mortgage-backed Securities Classified as Held-to-Maturity (in thousands)

	September 30, 2017	December 31, 2016
Premiums	\$ 51,801	\$ 60,519
Discounts	(25,469)	(31,474)
Net purchased premiums	\$ 26,332	\$ 29,045

Table 5.3 summarizes the held-to-maturity securities with unrealized losses, which are aggregated by major security type and length of time that individual securities have been in a continuous unrealized loss position.

Table 5.3 - Held-to-Maturity Securities in a Continuous Unrealized Loss Position (in thousands)

	September 30, 2017					
	Less than 12 Months		12 Months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Mortgage-backed securities:						
Other U.S. obligation single-family mortgage-backed securities	\$ 1,453,423	\$ (11,312)	\$ —	\$ —	\$ 1,453,423	\$ (11,312)
GSE single-family mortgage-backed securities	2,689,985	(31,828)	2,034,942	(61,916)	4,724,927	(93,744)
GSE multi-family mortgage-backed securities	1,823,696	(1,043)	135,816	(253)	1,959,512	(1,296)
Total	<u>\$ 5,967,104</u>	<u>\$ (44,183)</u>	<u>\$ 2,170,758</u>	<u>\$ (62,169)</u>	<u>\$ 8,137,862</u>	<u>\$ (106,352)</u>
	December 31, 2016					
	Less than 12 Months		12 Months or more		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Mortgage-backed securities:						
Other U.S. obligation single-family mortgage-backed securities	\$ 2,151,584	\$ (23,151)	\$ —	\$ —	\$ 2,151,584	\$ (23,151)
GSE single-family mortgage-backed securities	4,548,897	(90,119)	1,193,241	(57,375)	5,742,138	(147,494)
GSE multi-family mortgage-backed securities	1,897,043	(3,906)	—	—	1,897,043	(3,906)
Total	<u>\$ 8,597,524</u>	<u>\$ (117,176)</u>	<u>\$ 1,193,241</u>	<u>\$ (57,375)</u>	<u>\$ 9,790,765</u>	<u>\$ (174,551)</u>

Table 5.4 - Held-to-Maturity Securities by Contractual Maturity (in thousands)

Year of Maturity	September 30, 2017		December 31, 2016	
	Amortized Cost ⁽¹⁾	Fair Value	Amortized Cost ⁽¹⁾	Fair Value
Non-mortgage-backed securities:				
Due in 1 year or less	\$ 33,938	\$ 33,939	\$ 31,279	\$ 31,280
Due after 1 year through 5 years	—	—	—	—
Due after 5 years through 10 years	—	—	—	—
Due after 10 years	—	—	—	—
Total non-mortgage-backed securities	<u>33,938</u>	<u>33,939</u>	<u>31,279</u>	<u>31,280</u>
Mortgage-backed securities ⁽²⁾	<u>14,775,901</u>	<u>14,723,474</u>	<u>14,515,700</u>	<u>14,381,951</u>
Total	<u>\$ 14,809,839</u>	<u>\$ 14,757,413</u>	<u>\$ 14,546,979</u>	<u>\$ 14,413,231</u>

(1) Carrying value equals amortized cost.

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

Table 5.5 - Interest Rate Payment Terms of Held-to-Maturity Securities (in thousands)

	September 30, 2017	December 31, 2016
Amortized cost of non-mortgage-backed securities:		
Fixed-rate	\$ 33,938	\$ 31,279
Total amortized cost of non-mortgage-backed securities	33,938	31,279
Amortized cost of mortgage-backed securities:		
Fixed-rate	8,414,225	9,706,072
Variable-rate	6,361,676	4,809,628
Total amortized cost of mortgage-backed securities	14,775,901	14,515,700
Total	\$ 14,809,839	\$ 14,546,979

Realized Gains and Losses. From time to time the FHLB may sell securities out of its held-to-maturity portfolio. These securities, generally, have less than 15 percent of the acquired principal outstanding at the time of the sale. These sales are considered maturities for the purposes of security classification. For the nine months ended September 30, 2017 and 2016, the FHLB did not sell any held-to-maturity securities.

Note 6 - Other-Than-Temporary Impairment Analysis

The FHLB evaluates any of its individual available-for-sale and held-to-maturity investment securities holdings in an unrealized loss position for other-than-temporary impairment on a quarterly basis.

For its Other U.S. obligations and GSE investments (mortgage-backed securities and non-mortgage-backed securities), the FHLB has determined that the strength of the issuers' guarantees through direct obligations or support from the U.S. government is sufficient to protect the FHLB from losses based on current expectations. As a result, the FHLB determined that, as of September 30, 2017, all of the gross unrealized losses on these investments were temporary as the declines in market value of these securities were not attributable to credit quality. Furthermore, the FHLB does not intend to sell the investments, and it is not more likely than not that the FHLB will be required to sell the investments before recovery of their amortized cost bases. As a result, the FHLB did not consider any of these investments to be other-than-temporarily impaired at September 30, 2017.

The FHLB did not consider any of its investments to be other-than-temporarily impaired at December 31, 2016.

Note 7 - Advances

The FHLB offers a wide range of fixed- and variable-rate Advance products with different maturities, interest rates, payment characteristics and optionality. The following table presents Advance redemptions by contractual maturity, including index-amortizing Advances, which are presented according to their predetermined amortization schedules.

Table 7.1 - Advance Redemption Terms (dollars in thousands)

Redemption Term	September 30, 2017		December 31, 2016	
	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Due in 1 year or less	\$ 35,855,761	1.35%	\$ 23,129,060	0.85%
Due after 1 year through 2 years	14,742,828	1.52	21,503,138	1.06
Due after 2 years through 3 years	9,489,896	1.60	14,292,353	1.12
Due after 3 years through 4 years	2,542,579	1.92	5,322,050	1.26
Due after 4 years through 5 years	836,921	2.04	963,105	1.78
Thereafter	4,507,257	2.06	4,697,315	1.75
Total par value	67,975,242	1.50	69,907,021	1.07
Commitment fees	(516)		(534)	
Discount on Affordable Housing Program (AHP) Advances	(6,182)		(7,435)	
Premiums	1,858		2,061	
Discounts	(4,590)		(5,994)	
Hedging adjustments	(22,408)		(13,138)	
Fair value option valuation adjustments and accrued interest	52		93	
Total	<u>\$ 67,943,456</u>		<u>\$ 69,882,074</u>	

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

Table 7.2 - Advances by Year of Contractual Maturity or Next Call Date (in thousands)

Year of Contractual Maturity or Next Call Date	September 30, 2017	December 31, 2016
Due in 1 year or less	\$ 42,309,016	\$ 33,831,156
Due after 1 year through 2 years	13,945,871	15,901,805
Due after 2 years through 3 years	6,891,163	13,608,214
Due after 3 years through 4 years	2,946,784	2,982,425
Due after 4 years through 5 years	552,151	2,243,105
Thereafter	1,330,257	1,340,316
Total par value	<u>\$ 67,975,242</u>	<u>\$ 69,907,021</u>

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

Table 7.3 - Advances by Year of Contractual Maturity or Next Put Date for Putable Advances (in thousands)

<u>Year of Contractual Maturity or Next Put Date</u>	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Due in 1 year or less	\$ 36,071,261	\$ 23,499,560
Due after 1 year through 2 years	14,637,328	21,248,138
Due after 2 years through 3 years	9,489,896	14,286,853
Due after 3 years through 4 years	2,542,579	5,322,050
Due after 4 years through 5 years	836,921	963,105
Thereafter	4,397,257	4,587,315
Total par value	<u>\$ 67,975,242</u>	<u>\$ 69,907,021</u>

Table 7.4 - Advances by Interest Rate Payment Terms (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Total fixed-rate ⁽¹⁾	\$ 31,512,306	\$ 24,700,450
Total variable-rate ⁽¹⁾	36,462,936	45,206,571
Total par value	<u>\$ 67,975,242</u>	<u>\$ 69,907,021</u>

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

Table 7.5 - Borrowers Holding Five Percent or more of Total Advances, Including Any Known Affiliates that are Members of the FHLB (dollars in millions)

	<u>September 30, 2017</u>		<u>December 31, 2016</u>		
	<u>Principal</u>	<u>% of Total Par Value of Advances</u>	<u>Principal</u>	<u>% of Total Par Value of Advances</u>	
JPMorgan Chase Bank, N.A.	\$ 25,850	38%	JPMorgan Chase Bank, N.A.	\$ 32,300	46%
U.S. Bank, N.A.	7,453	11	U.S. Bank, N.A.	8,563	12
Fifth Third Bank	4,717	7	Total	<u>\$ 40,863</u>	<u>58%</u>
Third Federal Savings and Loan Association	3,669	5			
Total	<u>\$ 41,689</u>	<u>61%</u>			

Note 8 - Mortgage Loans Held for Portfolio
Table 8.1 - Mortgage Loans Held for Portfolio (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Unpaid principal balance:		
Fixed rate medium-term single-family mortgage loans ⁽¹⁾	\$ 1,175,946	\$ 1,320,585
Fixed rate long-term single-family mortgage loans	8,103,587	7,605,088
Total unpaid principal balance	9,279,533	8,925,673
Premiums	215,517	211,058
Discounts	(3,374)	(3,740)
Hedging basis adjustments ⁽²⁾	12,880	16,869
Total mortgage loans held for portfolio	<u>\$ 9,504,556</u>	<u>\$ 9,149,860</u>

(1) Medium-term is defined as a term of 15 years or less.

(2) Represents the unamortized balance of the mortgage purchase commitments' market values at the time of settlement. The market value of the commitment is included in the basis of the mortgage loan and amortized accordingly.

Table 8.2 - Mortgage Loans Held for Portfolio by Collateral/Guarantee Type (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Unpaid principal balance:		
Conventional mortgage loans	\$ 8,939,890	\$ 8,534,542
Federal Housing Administration (FHA) mortgage loans	339,643	391,131
Total unpaid principal balance	<u>\$ 9,279,533</u>	<u>\$ 8,925,673</u>

For information related to the FHLB's credit risk on mortgage loans and allowance for credit losses, see Note 9.

Table 8.3 - Members, Including Any Known Affiliates that are Members of the FHLB, and Former Members Selling Five Percent or more of Total Unpaid Principal (dollars in millions)

	<u>September 30, 2017</u>			<u>December 31, 2016</u>	
	<u>Principal</u>	<u>% of Total</u>		<u>Principal</u>	<u>% of Total</u>
Union Savings Bank	\$ 3,150	34%	Union Savings Bank	\$ 2,886	32%
Guardian Savings Bank FSB	910	10	Guardian Savings Bank FSB	855	10
PNC Bank, N.A. ⁽¹⁾	549	6	PNC Bank, N.A. ⁽¹⁾	660	7

(1) Former member.

Note 9 - Allowance for Credit Losses

The FHLB has established an allowance methodology for each of the FHLB's portfolio segments: credit products (Advances, Letters of Credit and other extensions of credit to members); FHA mortgage loans held for portfolio; and conventional mortgage loans held for portfolio.

Credit Products

The FHLB manages its credit exposure to credit products through an integrated approach that includes establishing a credit limit for each borrower, ongoing review of each borrower's financial condition, coupled with collateral and lending policies to limit risk of loss while balancing borrowers' needs for a reliable source of funding. In addition, the FHLB lends to eligible borrowers in accordance with federal law, including the FHLBank Act and Finance Agency regulations, which require the FHLB to obtain sufficient collateral to fully secure credit products. The estimated value of the collateral required to secure each member's credit products is calculated by applying collateral discounts, or haircuts, to the value of the collateral. The FHLB accepts certain investment securities, residential mortgage loans, deposits and other real estate related assets as collateral. In addition, community financial institutions are eligible to utilize expanded statutory collateral provisions for small business, agriculture loans and community development loans. The FHLB's capital stock owned by its member borrowers is also pledged as collateral. Collateral arrangements and a member's borrowing capacity vary based on the financial condition and performance of the institution, the types of collateral pledged and the overall quality of those assets. The FHLB can also require additional or substitute collateral to protect its security interest. Management of the FHLB believes that these policies effectively manage the FHLB's credit risk from credit products.

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

Using a risk-based approach, the FHLB considers the payment status, collateralization levels, and borrower's financial condition to be indicators of credit quality for its credit products. At September 30, 2017 and December 31, 2016, the FHLB had rights to collateral on a member-by-member basis with an estimated value in excess of its outstanding extensions of credit.

The FHLB evaluates and makes changes to its collateral guidelines, as necessary, based on current market conditions. At September 30, 2017 and December 31, 2016, the FHLB did not have any Advances that were past due, in non-accrual status or impaired. In addition, there were no troubled debt restructurings related to credit products of the FHLB during the nine months ended September 30, 2017 or 2016.

The FHLB has not experienced any credit losses on Advances since it was founded in 1932. Based upon the collateral held as security, its credit extension and collateral policies and the repayment history on credit products, the FHLB did not record any credit losses on credit products as of September 30, 2017 or December 31, 2016. Accordingly, the FHLB did not record any allowance for credit losses on Advances.

At September 30, 2017 and December 31, 2016, the FHLB did not record any liability to reflect an allowance for credit losses for off-balance sheet credit exposures. See Note 19 for additional information on the FHLB's off-balance sheet credit exposure.

Mortgage Loans Held for Portfolio - FHA

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

Mortgage Loans Held for Portfolio - Conventional Mortgage Purchase Program (MPP)

The FHLB determines the allowance for conventional loans through analyses that include consideration of various data observations such as past performance, current performance, loan portfolio characteristics, collateral-related characteristics, industry data, and prevailing economic conditions. The measurement of the allowance for credit losses consists of:

(1) collectively evaluating homogeneous pools of residential mortgage loans; (2) reviewing specifically identified loans for impairment; and (3) considering other relevant qualitative factors.

Collectively Evaluated Mortgage Loans. The credit risk analysis of conventional loans evaluated collectively for impairment considers historical delinquency migration, applies estimated loss severities, and incorporates the associated credit enhancements in order to determine the FHLB's best estimate of probable incurred losses at the reporting date. The FHLB performs the credit risk analysis of all conventional mortgage loans at the individual Master Commitment Contract level to properly determine the credit enhancements available to recover losses on loans under each individual Master Commitment Contract. The Master Commitment Contract is an agreement with a member in which the member agrees to make a best efforts attempt to sell a specific dollar amount of loans to the FHLB generally over a one-year period. Migration analysis is a methodology for determining, through the FHLB's experience over a historical period, the rate of default on loans. The FHLB applies migration analysis to loans based on payment status categories such as current, 30, 60, and 90 days past due. The FHLB then estimates how many loans in these categories may migrate to a loss realization event and applies a current loss severity to estimate losses. The estimated losses are then reduced by the probable cash flows resulting from available credit enhancements. Any credit enhancement cash flows that are projected and assessed as not probable of receipt do not reduce estimated losses.

Individually Evaluated Mortgage Loans. Conventional mortgage loans that are considered troubled debt restructurings are specifically identified for purposes of calculating the allowance for credit losses. The FHLB measures impairment of these specifically identified loans by either estimating the present value of expected cash flows, estimating the loan's observable market price, or estimating the fair value of the collateral if the loan is collateral dependent. The FHLB removes specifically identified loans evaluated for impairment from the collectively evaluated mortgage loan population.

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

Rollforward of Allowance for Credit Losses on Mortgage Loans. The following tables present a rollforward of the allowance for credit losses on conventional mortgage loans as well as the recorded investment in mortgage loans by impairment methodology. The recorded investment in a loan is the unpaid principal balance of the loan adjusted for accrued interest, unamortized premiums or discounts, hedging basis adjustments and direct write-downs. The recorded investment is not net of any allowance.

Table 9.1 - Rollforward of Allowance for Credit Losses on Conventional Mortgage Loans (in thousands)

	Three Months Ended September 30,	
	2017	2016
Balance, beginning of period	\$ 970	\$ 1,217
Net charge offs	(170)	(78)
Provision for credit losses	500	—
Balance, end of period	<u>\$ 1,300</u>	<u>\$ 1,139</u>

	Nine Months Ended September 30,	
	2017	2016
Balance, beginning of period	\$ 1,142	\$ 1,686
Net charge offs	(342)	(547)
Provision for credit losses	500	—
Balance, end of period	<u>\$ 1,300</u>	<u>\$ 1,139</u>

Table 9.2 - Allowance for Credit Losses and Recorded Investment on Conventional Mortgage Loans by Impairment Methodology (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Allowance for credit losses:		
Collectively evaluated for impairment	\$ 1,300	\$ 1,142
Individually evaluated for impairment	—	—
Total allowance for credit losses	<u>\$ 1,300</u>	<u>\$ 1,142</u>
Recorded investment:		
Collectively evaluated for impairment	\$ 9,180,476	\$ 8,772,681
Individually evaluated for impairment	10,230	9,889
Total recorded investment	<u>\$ 9,190,706</u>	<u>\$ 8,782,570</u>

Credit Enhancements. The conventional mortgage loans under the MPP are supported by some combination of credit enhancements (primary mortgage insurance (PMI), supplemental mortgage insurance (SMI) and the Lender Risk Account (LRA), including pooled LRA for those members participating in an aggregated MPP pool). The amount of credit enhancements needed to protect the FHLB against credit losses is determined through use of a third-party default model. These credit enhancements apply after a homeowner's equity is exhausted. Beginning in February 2011, the FHLB discontinued the use of SMI for all new loan purchases and replaced it with expanded use of the LRA. The LRA is funded by the FHLB as a portion of the purchase proceeds to cover expected losses. The LRA is recorded in other liabilities in the Statements of Condition. Excess funds over required balances are distributed to the member in accordance with a step-down schedule that is established upon execution of a Master Commitment Contract, subject to performance of the related loan pool. The LRA established for a pool of loans is limited to only covering losses of that specific pool of loans.

Table 9.3 - Changes in the LRA (in thousands)

	Nine Months Ended September 30, 2017
LRA at beginning of year	\$ 187,684
Additions	14,842
Claims	(427)
Scheduled distributions	(6,243)
LRA at end of period	<u>\$ 195,856</u>

Credit Quality Indicators. Key credit quality indicators for mortgage loans include the migration of past due loans, loans in process of foreclosure, and non-accrual loans. The table below summarizes the FHLB's key credit quality indicators for mortgage loans.

Table 9.4 - Recorded Investment in Delinquent Mortgage Loans (dollars in thousands)

	September 30, 2017		
	Conventional MPP Loans	FHA Loans	Total
Past due 30-59 days delinquent	\$ 31,345	\$ 21,224	\$ 52,569
Past due 60-89 days delinquent	8,386	5,628	14,014
Past due 90 days or more delinquent	17,795	10,412	28,207
Total past due	57,526	37,264	94,790
Total current mortgage loans	9,133,180	307,223	9,440,403
Total mortgage loans	\$ 9,190,706	\$ 344,487	\$ 9,535,193
Other delinquency statistics:			
In process of foreclosure, included above ⁽¹⁾	\$ 10,979	\$ 5,699	\$ 16,678
Serious delinquency rate ⁽²⁾	0.20%	3.06%	0.31%
Past due 90 days or more still accruing interest ⁽³⁾	\$ 16,312	\$ 10,412	\$ 26,724
Loans on non-accrual status, included above	\$ 3,045	\$ —	\$ 3,045
December 31, 2016			
	Conventional MPP Loans	FHA Loans	Total
Past due 30-59 days delinquent	\$ 39,409	\$ 23,206	\$ 62,615
Past due 60-89 days delinquent	9,350	8,275	17,625
Past due 90 days or more delinquent	21,773	14,054	35,827
Total past due	70,532	45,535	116,067
Total current mortgage loans	8,712,038	351,299	9,063,337
Total mortgage loans	\$ 8,782,570	\$ 396,834	\$ 9,179,404
Other delinquency statistics:			
In process of foreclosure, included above ⁽¹⁾	\$ 15,412	\$ 5,841	\$ 21,253
Serious delinquency rate ⁽²⁾	0.26%	3.59%	0.40%
Past due 90 days or more still accruing interest ⁽³⁾	\$ 19,408	\$ 14,054	\$ 33,462
Loans on non-accrual status, included above	\$ 3,908	\$ —	\$ 3,908

(1) Includes loans where the decision of foreclosure or a similar alternative such as pursuit of deed-in-lieu has been reported. Loans in process of foreclosure are included in past due or current loans dependent on their delinquency status.

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

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

The FHLB did not have any real estate owned at September 30, 2017 or December 31, 2016.

Individually Evaluated Impaired Loans. Table 9.5 presents the recorded investment, unpaid principal balance, and related allowance associated with loans individually evaluated for investment.

Table 9.5 - Individually Evaluated Impaired Loan Statistics by Product Class Level (in thousands)

	September 30, 2017			December 31, 2016		
	Recorded Investment	Unpaid Principal Balance	Related Allowance	Recorded Investment	Unpaid Principal Balance	Related Allowance
Conventional MPP loans						
With no related allowance	\$ 10,230	\$ 10,034	\$ —	\$ 9,889	\$ 9,708	\$ —
With an allowance	—	—	—	—	—	—
Total	\$ 10,230	\$ 10,034	\$ —	\$ 9,889	\$ 9,708	\$ —

Table 9.6 - Average Recorded Investment of Individually Evaluated Impaired Loans and Related Interest Income Recognized (in thousands)

	Three Months Ended September 30,			
	2017		2016	
	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized
Individually impaired loans				
Conventional MPP Loans	\$ 9,771	\$ 114	\$ 9,620	\$ 122

	Nine Months Ended September 30,			
	2017		2016	
	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized
Individually impaired loans				
Conventional MPP Loans	\$ 8,952	\$ 316	\$ 9,343	\$ 357

Troubled Debt Restructurings. A troubled debt restructuring is considered to have occurred when a concession is granted to a borrower for economic or legal reasons related to the borrower's financial difficulties and that concession would not have been considered otherwise. The FHLB's troubled debt restructurings primarily involve loans where an agreement permits the recapitalization of past due amounts up to the original loan amount and certain loans discharged in Chapter 7 bankruptcy. A loan considered a troubled debt restructuring is individually evaluated for impairment when determining its related allowance for credit losses. Credit loss is measured by estimating expected cash shortfalls incurred as of the reporting date.

The FHLB's recorded investment in modified loans considered troubled debt restructurings was (in thousands) \$10,230 and \$9,889 at September 30, 2017 and December 31, 2016, respectively. The amount of troubled debt restructurings is not considered material to the FHLB's financial condition, results of operations, or cash flows.

Note 10 - Derivatives and Hedging Activities

Nature of Business Activity

The FHLB is exposed to interest rate risk primarily from the effect of interest rate changes on its interest-earning assets and on the interest-bearing liabilities that finance these assets. The goal of the FHLB's interest-rate risk management strategy is not to eliminate interest-rate risk, but to manage it within appropriate limits. To mitigate the risk of loss, the FHLB has established policies and procedures, which include guidelines on the amount of exposure to interest rate changes it is willing to accept. In addition, the FHLB monitors the risk to its interest income, net interest margin and average maturity of interest-earning assets and interest-bearing liabilities. See Note 11 - Derivatives and Hedging Activities in the FHLB's 2016 Annual Report on Form 10-K for additional information on the FHLB's derivative transactions.

The FHLB uses derivatives when they are considered to be the most cost-effective alternative to achieve the FHLB's financial and risk management objectives. The FHLB re-evaluates its hedging strategies from time to time and may change the hedging techniques it uses or adopt new strategies.

The FHLB transacts its derivatives with large banks and major broker-dealers. Some of these banks and broker-dealers or their affiliates buy, sell, and distribute Consolidated Obligations. Derivative transactions may be either executed with a counterparty (uncleared derivatives) or cleared through a Futures Commission Merchant (i.e., clearing agent) with a Derivative Clearing Organization (cleared derivatives).

Once a derivative transaction has been accepted for clearing by a Derivative Clearing Organization (Clearinghouse), the executing counterparty is replaced with the Clearinghouse. The FHLB is not a derivative dealer and does not trade derivatives for short-term profit.

Financial Statement Effect and Additional Financial Information

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

Table 10.1 summarizes the notional amount, fair value of derivative instruments (excluding fair value adjustments related to variation margin on settled daily contracts), and total derivative assets and liabilities. Total derivative assets and liabilities include the effect of netting adjustments, cash collateral and variation margin for daily settled contracts. For purposes of this disclosure, the derivative values include the fair value of derivatives and the related accrued interest.

Table 10.1 - Fair Value of Derivative Instruments (in thousands)

	September 30, 2017		
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as fair value hedging instruments:			
Interest rate swaps	\$ 5,846,399	\$ 36,184	\$ 15,380
Derivatives not designated as hedging instruments:			
Interest rate swaps	6,032,265	1,401	56,482
Interest rate swaptions	1,800,000	5,675	—
Forward rate agreements	361,000	1,863	1
Mortgage delivery commitments	361,482	1,918	419
Total derivatives not designated as hedging instruments	<u>8,554,747</u>	<u>10,857</u>	<u>56,902</u>
Total derivatives before adjustments	<u>\$ 14,401,146</u>	<u>47,041</u>	<u>72,282</u>
Netting adjustments, cash collateral and variation margin for daily settled contracts ⁽¹⁾		32,469	(68,613)
Total derivative assets and total derivative liabilities		<u>\$ 79,510</u>	<u>\$ 3,669</u>
		December 31, 2016	
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as fair value hedging instruments:			
Interest rate swaps	\$ 5,660,420	\$ 37,379	\$ 26,610
Derivatives not designated as hedging instruments:			
Interest rate swaps	8,199,000	2,135	64,661
Interest rate swaptions	2,346,000	13,335	—
Forward rate agreements	511,000	681	166
Mortgage delivery commitments	440,849	319	10,628
Total derivatives not designated as hedging instruments	<u>11,496,849</u>	<u>16,470</u>	<u>75,455</u>
Total derivatives before adjustments	<u>\$ 17,157,269</u>	<u>53,849</u>	<u>102,065</u>
Netting adjustments and cash collateral ⁽¹⁾		50,904	(84,191)
Total derivative assets and total derivative liabilities		<u>\$ 104,753</u>	<u>\$ 17,874</u>

(1) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions, cash collateral and related accrued interest held or placed by the FHLB with the same clearing agent and/or counterparty, and effective January 3, 2017, includes fair value adjustments on derivatives for which variation margin is characterized as a daily settled contract. Cash collateral posted and related accrued interest was (in thousands) \$78,424 and \$180,169 at September 30, 2017 and December 31, 2016. Cash collateral received and related accrued interest was (in thousands) \$33,399 and \$45,074 at September 30, 2017 and December 31, 2016. Variation margin for daily settled contracts was (in thousands) \$56,057 at September 30, 2017 and \$0 at December 31, 2016.

Table 10.2 presents the components of net (losses) gains on derivatives and hedging activities as presented in the Statements of Income.

Table 10.2 - Net (Losses) Gains on Derivatives and Hedging Activities (in thousands)

	Three Months Ended September 30,	
	2017	2016
Derivatives and hedged items in fair value hedging relationships:		
Interest rate swaps	\$ 86	\$ 245
Derivatives not designated as hedging instruments:		
Economic hedges:		
Interest rate swaps	(621)	(20,584)
Interest rate swaptions	(3,579)	(1,318)
Forward rate agreements	(2,581)	(5,824)
Net interest settlements	(3,338)	4,166
Mortgage delivery commitments	3,212	5,688
Total net losses related to derivatives not designated as hedging instruments	(6,907)	(17,872)
Other ⁽¹⁾	136	—
Net losses on derivatives and hedging activities	<u>\$ (6,685)</u>	<u>\$ (17,627)</u>

	Nine Months Ended September 30,	
	2017	2016
Derivatives and hedged items in fair value hedging relationships:		
Interest rate swaps	\$ 226	\$ (2,625)
Derivatives not designated as hedging instruments:		
Economic hedges:		
Interest rate swaps	12,212	3,889
Interest rate swaptions	(13,948)	(2,601)
Forward rate agreements	(6,094)	(24,856)
Net interest settlements	(4,421)	9,981
Mortgage delivery commitments	10,089	26,615
Total net (losses) gains related to derivatives not designated as hedging instruments	(2,162)	13,028
Other ⁽¹⁾	395	—
Net (losses) gains on derivatives and hedging activities	<u>\$ (1,541)</u>	<u>\$ 10,403</u>

(1) Consists of price alignment amount on derivatives for which variation margin is characterized as a daily settled contract.

Table 10.3 presents by type of hedged item, the gains (losses) on derivatives and the related hedged items in fair value hedging relationships and the impact of those derivatives on the FHLB's net interest income.

Table 10.3 - Effect of Fair Value Hedge-Related Derivative Instruments (in thousands)

	Three Months Ended September 30,			
	Gain/(Loss) on Derivative	Gain/(Loss) on Hedged Item	Net Fair Value Hedge Ineffectiveness	Effect of Derivatives on Net Interest Income ⁽¹⁾
2017				
Hedged Item Type:				
Advances	\$ 7,664	\$ (7,596)	\$ 68	\$ (3,575)
Consolidated Bonds	559	(541)	18	(604)
Total	<u>\$ 8,223</u>	<u>\$ (8,137)</u>	<u>\$ 86</u>	<u>\$ (4,179)</u>
2016				
Hedged Item Type:				
Advances	\$ 42,213	\$ (41,856)	\$ 357	\$ (15,340)
Consolidated Bonds	(4,453)	4,341	(112)	1,383
Total	<u>\$ 37,760</u>	<u>\$ (37,515)</u>	<u>\$ 245</u>	<u>\$ (13,957)</u>
Nine Months Ended September 30,				
	Gain/(Loss) on Derivative	Gain/(Loss) on Hedged Item	Net Fair Value Hedge Ineffectiveness	Effect of Derivatives on Net Interest Income ⁽¹⁾
2017				
Hedged Item Type:				
Advances	\$ 7,365	\$ (7,486)	\$ (121)	\$ (15,020)
Consolidated Bonds	295	52	347	(338)
Total	<u>\$ 7,660</u>	<u>\$ (7,434)</u>	<u>\$ 226</u>	<u>\$ (15,358)</u>
2016				
Hedged Item Type:				
Advances	\$ (12,012)	\$ 9,615	\$ (2,397)	\$ (48,736)
Consolidated Bonds	(2,199)	1,971	(228)	6,821
Total	<u>\$ (14,211)</u>	<u>\$ 11,586</u>	<u>\$ (2,625)</u>	<u>\$ (41,915)</u>

- (1) For fair value hedge relationships, the net effect of derivatives on net interest income is included in the interest income or interest expense line item of the respective hedged item type. These amounts include the effect of net interest settlements attributable to designated fair value hedges but do not include (in thousands) \$(497) and \$(582) of (amortization)/accretion related to fair value hedging activities for the three months ended September 30, 2017 and 2016 and (in thousands) \$(1,784) and \$(2,264) for the nine months ended September 30, 2017 and 2016.

Credit Risk on Derivatives

The FHLB 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 Finance Agency regulations.

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

For cleared derivatives, the Clearinghouse is the FHLB's counterparty. The Clearinghouse notifies the clearing agent of the required initial and variation margin and the clearing agent in turn notifies the FHLB. The FHLB utilizes two Clearinghouses for all cleared derivative transactions, LCH.Clearnet LLC and CME Clearing. Effective January 3, 2017, CME Clearing made certain amendments to its rulebook changing the legal characterization of variation margin payments to be daily settlement

payments, rather than collateral. Variation margin related to LCH.Clearnet LLC contracts continues to be presented as cash collateral. At both Clearinghouses, initial margin continues to be considered collateral. The requirement that the FHLB post initial and variation margin through the clearing agent, to the Clearinghouse, exposes the FHLB to credit risk if the clearing agent or the Clearinghouse fails to meet its obligations. The use of cleared derivatives is intended to mitigate credit risk exposure because a central counterparty is substituted for individual counterparties and collateral/payments for changes in the value of cleared derivatives is posted daily through a clearing agent.

Certain of the FHLB's uncleared derivative contracts contain provisions that require the FHLB to post additional collateral with its counterparties if there is deterioration in the FHLB's credit ratings. At September 30, 2017, the FHLB would not have been required to deliver any additional collateral if the FHLB's credit ratings had been lowered to the next lower rating. The aggregate fair value of all uncleared derivatives with credit-risk-related contingent features that were in a net liability position (before cash collateral and related accrued interest) at September 30, 2017 was (in thousands) \$7,035, for which the FHLB had posted collateral with a fair value of (in thousands) \$3,884 in the normal course of business.

For cleared derivatives, the Clearinghouse determines initial margin requirements and generally credit ratings are not factored into the initial margin. However, clearing agents may require additional initial margin to be posted based on credit considerations, including, but not limited to, credit rating downgrades. At September 30, 2017, the FHLB was not required to post additional initial margin by its clearing agents based on credit considerations.

Offsetting of Derivative Assets and Derivative Liabilities

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

The FHLB 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 bankruptcy, insolvency, or similar proceeding involving the Clearinghouse or the FHLB's clearing agent, or both. Based on this analysis, the FHLB presents a net derivative receivable or payable for all of its transactions through a particular clearing agent with a particular Clearinghouse.

Table 10.4 presents separately the fair value of derivative instruments meeting or not meeting netting requirements, including the related collateral received from or pledged to counterparties and variation margin for daily settled contracts. At September 30, 2017 and December 31, 2016, the FHLB did not receive or pledge any non-cash collateral. Any overcollateralization under an individual clearing agent and/or counterparty level is not included in the determination of the net unsecured amount.

Table 10.4 - Offsetting of Derivative Assets and Derivative Liabilities (in thousands)

	September 30, 2017		December 31, 2016	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
Derivative instruments meeting netting requirements:				
Gross recognized amount:				
Uncleared derivatives	\$ 6,685	\$ 11,255	\$ 15,506	\$ 21,378
Cleared derivatives	36,575	60,607	37,343	69,893
Total gross recognized amount	43,260	71,862	52,849	91,271
Gross amounts of netting adjustments, cash collateral and variation margin for daily settled contracts ⁽¹⁾ :				
Uncleared derivatives	(6,544)	(8,006)	(14,737)	(14,298)
Cleared derivatives	39,013	(60,607)	65,641	(69,893)
Total gross amounts of netting adjustments, cash collateral and variation margin for daily settled contracts ⁽¹⁾	32,469	(68,613)	50,904	(84,191)
Net amounts after netting adjustments, cash collateral and variation margin for daily settled contracts:				
Uncleared derivatives	141	3,249	769	7,080
Cleared derivatives	75,588	—	102,984	—
Total net amounts after netting adjustments, cash collateral and variation margin for daily settled contracts	75,729	3,249	103,753	7,080
Derivative instruments not meeting netting requirements ⁽²⁾ :				
Uncleared derivatives	3,781	420	1,000	10,794
Total derivative instruments not meeting netting requirements ⁽²⁾	3,781	420	1,000	10,794
Total derivative assets and total derivative liabilities:				
Uncleared derivatives	3,922	3,669	1,769	17,874
Cleared derivatives	75,588	—	102,984	—
Total derivative assets and total derivative liabilities	<u>\$ 79,510</u>	<u>\$ 3,669</u>	<u>\$ 104,753</u>	<u>\$ 17,874</u>

(1) Variation margin for daily settled contracts was (in thousands) \$56,057 at September 30, 2017.

(2) Represents mortgage delivery commitments and forward rate agreements that are not subject to an enforceable netting agreement.

Note 11 - Deposits

Table 11.1- Deposits (in thousands)

	September 30, 2017	December 31, 2016
Interest bearing:		
Demand and overnight	\$ 568,802	\$ 611,432
Term	40,900	149,350
Other	5,912	4,521
Total interest bearing	615,614	765,303
Non-interest bearing:		
Other	2,060	576
Total non-interest bearing	2,060	576
Total deposits	<u>\$ 617,674</u>	<u>\$ 765,879</u>

The average interest rate paid on interest bearing deposits was 0.82 percent and 0.14 percent in the three months ended September 30, 2017 and 2016, respectively, and 0.59 percent and 0.14 percent in the nine months ended September 30, 2017 and 2016, respectively.

Note 12 - Consolidated Obligations

Table 12.1 - Consolidated Discount Notes Outstanding (dollars in thousands)

	<u>Book Value</u>	<u>Par Value</u>	<u>Weighted Average Interest Rate ⁽¹⁾</u>
September 30, 2017	\$ 49,539,728	\$ 49,604,987	1.04%
December 31, 2016	\$ 44,689,662	\$ 44,710,521	0.46%

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

Table 12.2 - Consolidated Bonds Outstanding by Contractual Maturity (dollars in thousands)

<u>Year of Contractual Maturity</u>	<u>September 30, 2017</u>		<u>December 31, 2016</u>	
	<u>Amount</u>	<u>Weighted Average Interest Rate</u>	<u>Amount</u>	<u>Weighted Average Interest Rate</u>
Due in 1 year or less	\$ 20,586,265	1.25%	\$ 20,970,750	0.87%
Due after 1 year through 2 years	8,827,800	1.37	12,811,000	1.12
Due after 2 years through 3 years	5,127,065	1.94	4,359,000	1.81
Due after 3 years through 4 years	5,572,500	1.85	3,566,000	1.95
Due after 4 years through 5 years	3,119,000	2.27	4,970,000	1.87
Thereafter	6,036,000	2.71	6,496,000	2.65
Total par value	49,268,630	1.66	53,172,750	1.39
Premiums	86,825		84,275	
Discounts	(30,687)		(32,804)	
Hedging adjustments	(2,916)		(2,865)	
Fair value option valuation adjustment and accrued interest	(23,467)		(30,490)	
Total	\$ 49,298,385		\$ 53,190,866	

Table 12.3 - Consolidated Bonds Outstanding by Call Features (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Par value of Consolidated Bonds:		
Non-callable	\$ 41,913,630	\$ 46,007,750
Callable	7,355,000	7,165,000
Total par value	\$ 49,268,630	\$ 53,172,750

Table 12.4 - Consolidated Bonds Outstanding by Contractual Maturity or Next Call Date (in thousands)

<u>Year of Contractual Maturity or Next Call Date</u>	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Due in 1 year or less	\$ 27,281,265	\$ 26,489,750
Due after 1 year through 2 years	8,078,800	12,006,000
Due after 2 years through 3 years	4,171,065	3,894,000
Due after 3 years through 4 years	3,657,500	2,805,000
Due after 4 years through 5 years	2,456,000	3,964,000
Thereafter	3,624,000	4,014,000
Total par value	<u>\$ 49,268,630</u>	<u>\$ 53,172,750</u>

Table 12.5 - Consolidated Bonds by Interest-rate Payment Type (in thousands)

	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Par value of Consolidated Bonds:		
Fixed-rate	\$ 34,058,630	\$ 34,682,750
Variable-rate	15,210,000	18,290,000
Step-up	—	200,000
Total par value	<u>\$ 49,268,630</u>	<u>\$ 53,172,750</u>

Note 13 - Affordable Housing Program (AHP)
Table 13.1 - Analysis of AHP Liability (in thousands)

Balance at December 31, 2016	\$ 104,883
Assessments (current year additions)	25,727
Subsidy uses, net	(24,010)
Balance at September 30, 2017	<u>\$ 106,600</u>

Note 14 - Capital
Table 14.1 - Capital Requirements (dollars in thousands)

	<u>September 30, 2017</u>		<u>December 31, 2016</u>	
	<u>Minimum Requirement</u>	<u>Actual</u>	<u>Minimum Requirement</u>	<u>Actual</u>
Risk-based capital	\$ 857,807	\$ 5,175,544	\$ 579,629	\$ 5,026,133
Capital-to-assets ratio (regulatory)	4.00%	4.92%	4.00%	4.80%
Regulatory capital	\$ 4,210,021	\$ 5,175,544	\$ 4,185,411	\$ 5,026,133
Leverage capital-to-assets ratio (regulatory)	5.00%	7.38%	5.00%	7.21%
Leverage capital	\$ 5,262,526	\$ 7,763,316	\$ 5,231,764	\$ 7,539,200

Restricted Retained Earnings. At September 30, 2017 and December 31, 2016 the FHLB had (in thousands) \$306,187 and \$260,285 in restricted retained earnings. These restricted retained earnings are not available to pay dividends but are available to absorb unexpected losses, if any, that the FHLB may experience.

Table 14.2 - Mandatorily Redeemable Capital Stock Roll Forward (in thousands)

Balance, December 31, 2016	\$ 34,782
Capital stock subject to mandatory redemption reclassified from equity	269,403
Redemption (or other reduction) of mandatorily redeemable capital stock	(272,771)
Balance, September 30, 2017	<u>\$ 31,414</u>

Table 14.3 - Mandatorily Redeemable Capital Stock by Contractual Year of Redemption (in thousands)

<u>Contractual Year of Redemption</u>	<u>September 30, 2017</u>	<u>December 31, 2016</u>
Year 1	\$ 23	\$ —
Year 2	1,819	29
Year 3	421	2,264
Year 4	2,790	865
Year 5	5,577	6,307
Thereafter ⁽¹⁾	610	623
Past contractual redemption date due to remaining activity ⁽²⁾	20,174	24,694
Total	<u>\$ 31,414</u>	<u>\$ 34,782</u>

(1) Represents mandatorily redeemable capital stock resulting from a Finance Agency rule effective February 2016, that made captive insurance companies ineligible for FHLB membership. Captive insurance companies that were admitted as FHLB members prior to September 12, 2014, will have their membership terminated no later than February 19, 2021. Captive insurance companies that were admitted as FHLB members on or after September 12, 2014, had their membership terminated no later than February 19, 2017. 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.

Note 15 - Accumulated Other Comprehensive (Loss) Income

The following tables summarize the changes in accumulated other comprehensive (loss) income for the three and nine months ended September 30, 2017 and 2016.

Table 15.1 - Accumulated Other Comprehensive (Loss) Income (in thousands)

	Net unrealized gains (losses) on available-for-sale securities	Pension and postretirement benefits	Total accumulated other comprehensive (loss) income
BALANCE, JUNE 30, 2016	\$ 67	\$ (12,177)	\$ (12,110)
Other comprehensive income before reclassification:			
Net unrealized gains	161	—	161
Reclassifications from other comprehensive income to net income:			
Amortization - pension and postretirement benefits	—	591	591
Net current period other comprehensive income	161	591	752
BALANCE, SEPTEMBER 30, 2016	<u>\$ 228</u>	<u>\$ (11,586)</u>	<u>\$ (11,358)</u>
<hr/>			
BALANCE, JUNE 30, 2017	\$ 4	\$ (12,426)	\$ (12,422)
Other comprehensive income before reclassification:			
Net unrealized gains	13	—	13
Reclassifications from other comprehensive income to net income:			
Amortization - pension and postretirement benefits	—	427	427
Net current period other comprehensive income	13	427	440
BALANCE, SEPTEMBER 30, 2017	<u>\$ 17</u>	<u>\$ (11,999)</u>	<u>\$ (11,982)</u>
<hr/>			
	Net unrealized gains (losses) on available-for-sale securities	Pension and postretirement benefits	Total accumulated other comprehensive (loss) income
BALANCE, DECEMBER 31, 2015	\$ 81	\$ (13,358)	\$ (13,277)
Other comprehensive income before reclassification:			
Net unrealized gains	147	—	147
Reclassifications from other comprehensive income to net income:			
Amortization - pension and postretirement benefits	—	1,772	1,772
Net current period other comprehensive income	147	1,772	1,919
BALANCE, SEPTEMBER 30, 2016	<u>\$ 228</u>	<u>\$ (11,586)</u>	<u>\$ (11,358)</u>
<hr/>			
BALANCE, DECEMBER 31, 2016	\$ 23	\$ (13,279)	\$ (13,256)
Other comprehensive income before reclassification:			
Net unrealized losses	(6)	—	(6)
Reclassifications from other comprehensive income to net income:			
Amortization - pension and postretirement benefits	—	1,280	1,280
Net current period other comprehensive (loss) income	(6)	1,280	1,274
BALANCE, SEPTEMBER 30, 2017	<u>\$ 17</u>	<u>\$ (11,999)</u>	<u>\$ (11,982)</u>

Note 16 - Pension and Postretirement Benefit Plans

Qualified Defined Benefit Multi-employer Plan. The FHLB participates in the Pentegra Defined Benefit Plan for Financial Institutions (Pentegra Defined Benefit Plan), a tax-qualified defined benefit pension plan. Under the Pentegra Defined Benefit Plan, contributions made by one participating employer may be used to provide benefits to employees of other participating employers because assets contributed by an employer are not segregated in a separate account or restricted to provide benefits only to employees of that employer. Also, in the event a participating employer is unable to meet its contribution requirements, the required contributions for the other participating employers could increase proportionately. The Pentegra Defined Benefit Plan covers all officers and employees of the FHLB who meet certain eligibility requirements. Contributions to the Pentegra Defined Benefit Plan charged to compensation and benefit expense were \$2,750,000 and \$1,685,000 in the three months ended September 30, 2017 and 2016, respectively, and \$6,039,000 and \$5,055,000 in the nine months ended September 30, 2017 and 2016, respectively.

Qualified Defined Contribution Plan. The FHLB also participates in the Pentegra Defined Contribution Plan for Financial Institutions, a tax-qualified, defined contribution pension plan. The FHLB contributes a percentage of the participants' compensation by making a matching contribution equal to a percentage of voluntary employee contributions, subject to certain limitations. The FHLB contributed \$225,000 and \$193,000 in the three months ended September 30, 2017 and 2016, respectively, and \$946,000 and \$817,000 in the nine months ended September 30, 2017 and 2016, respectively.

Nonqualified Supplemental Defined Benefit Retirement Plan (Defined Benefit Retirement Plan). The FHLB maintains a nonqualified, unfunded defined benefit plan. The plan ensures that participants receive the full amount of benefits to which they would have been entitled under the qualified defined benefit plan in the absence of limits on benefit levels imposed by the IRS. There are no funded plan assets. The FHLB has established a grantor trust, which is included in held-to-maturity securities on the Statements of Condition, to meet future benefit obligations and current payments to beneficiaries.

Postretirement Benefits Plan. The FHLB also sponsors a Postretirement Benefits Plan that includes health care and life insurance benefits for eligible retirees. Future retirees are eligible for the postretirement benefits plan if they were hired prior to August 1, 1990, are age 55 or older, and their age plus years of continuous service at retirement are greater than or equal to 80. Spouses are covered subject to required contributions. There are no funded plan assets that have been designated to provide postretirement benefits.

Table 16.1 - Net Periodic Benefit Cost (in thousands)

	Three Months Ended September 30,			
	Defined Benefit Retirement Plan		Postretirement Benefits Plan	
	2017	2016	2017	2016
<u>Net Periodic Benefit Cost</u>				
Service cost	\$ 220	\$ 182	\$ 7	\$ 12
Interest cost	342	329	50	55
Amortization of net loss	426	579	1	12
Net periodic benefit cost	<u>\$ 988</u>	<u>\$ 1,090</u>	<u>\$ 58</u>	<u>\$ 79</u>
	Nine Months Ended September 30,			
	Defined Benefit Retirement Plan		Postretirement Benefits Plan	
	2017	2016	2017	2016
<u>Net Periodic Benefit Cost</u>				
Service cost	\$ 661	\$ 547	\$ 21	\$ 37
Interest cost	1,026	988	148	164
Amortization of net loss	1,276	1,737	4	35
Net periodic benefit cost	<u>\$ 2,963</u>	<u>\$ 3,272</u>	<u>\$ 173</u>	<u>\$ 236</u>

Note 17 - Segment Information

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

Table 17.1 - Financial Performance by Operating Segment (in thousands)

	Three Months Ended September 30,		
	Traditional Member Finance	MPP	Total
<u>2017</u>			
Net interest income	\$ 86,617	\$ 23,781	\$ 110,398
Provision for credit losses	—	500	500
Net interest income after provision for credit losses	86,617	23,281	109,898
Non-interest (loss) income	(1,988)	(1,222)	(3,210)
Non-interest expense	17,370	2,860	20,230
Income before assessments	67,259	19,199	86,458
Affordable Housing Program assessments	6,821	1,920	8,741
Net income	<u>\$ 60,438</u>	<u>\$ 17,279</u>	<u>\$ 77,717</u>
<u>2016</u>			
Net interest income after provision for credit losses	\$ 74,280	\$ 19,113	\$ 93,393
Non-interest (loss) income	(3,489)	(698)	(4,187)
Non-interest expense	18,728	2,744	21,472
Income before assessments	52,063	15,671	67,734
Affordable Housing Program assessments	5,294	1,567	6,861
Net income	<u>\$ 46,769</u>	<u>\$ 14,104</u>	<u>\$ 60,873</u>
<u>Nine Months Ended September 30,</u>			
	Traditional Member Finance	MPP	Total
<u>2017</u>			
Net interest income	\$ 248,607	\$ 70,832	\$ 319,439
Provision for credit losses	—	500	500
Net interest income after provision for credit losses	248,607	70,332	318,939
Non-interest (loss) income	(914)	(2,953)	(3,867)
Non-interest expense	51,490	8,346	59,836
Income before assessments	196,203	59,033	255,236
Affordable Housing Program assessments	19,823	5,904	25,727
Net income	<u>\$ 176,380</u>	<u>\$ 53,129</u>	<u>\$ 229,509</u>
<u>2016</u>			
Net interest income after provision for credit losses	\$ 209,994	\$ 54,854	\$ 264,848
Non-interest (loss) income	(2,447)	687	(1,760)
Non-interest expense	55,978	8,141	64,119
Income before assessments	151,569	47,400	198,969
Affordable Housing Program assessments	15,454	4,740	20,194
Net income	<u>\$ 136,115</u>	<u>\$ 42,660</u>	<u>\$ 178,775</u>

Table 17.2 - Asset Balances by Operating Segment (in thousands)

	Assets		
	Traditional Member Finance	MPP	Total
September 30, 2017	\$ 94,564,865	\$ 10,685,650	\$ 105,250,515
December 31, 2016	95,456,372	9,178,909	104,635,281

Note 18 - Fair Value Disclosures

The fair value amounts recorded on the Statements of Condition and presented in the related note disclosures have been determined by the FHLB using available market information and the FHLB's best judgment of appropriate valuation methods. The fair values reflect the FHLB's judgment of how a market participant would estimate the fair values.

Fair Value Hierarchy. The FHLB records trading securities, available-for-sale securities, derivative assets, derivative liabilities, certain Advances and certain Consolidated Obligation Bonds at fair value on a recurring basis, and on occasion, certain mortgage loans held for portfolio on a nonrecurring basis. GAAP establishes a fair value hierarchy and requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The inputs are evaluated and an overall level for the measurement is determined. This overall level is an indication of how market observable the fair value measurement is. An entity must disclose the level within the fair value hierarchy in which the measurements are classified.

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

Level 1 Inputs - Quoted prices (unadjusted) for identical assets or liabilities in an active market that the reporting entity can access on the measurement date.

Level 2 Inputs - Inputs other than quoted prices within Level 1 that are observable inputs for the asset or liability, either directly or indirectly. If the asset or liability has a specified (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.

The FHLB reviews the fair value hierarchy classifications on a quarterly basis. Changes in the observability of the valuation inputs may result in a reclassification of certain financial assets or liabilities. Such reclassifications are reported as transfers in/out at fair value as of the beginning of the quarter in which the changes occur. The FHLB did not have any transfers of assets or liabilities recorded at fair value on a recurring basis during the nine months ended September 30, 2017 or 2016.

Table 18.1 presents the carrying value, fair value, and fair value hierarchy of financial assets and liabilities of the FHLB.

Table 18.1 - Fair Value Summary (in thousands)

Financial Instruments	September 30, 2017					
	Carrying Value	Total	Level 1	Level 2	Level 3	Netting Adjustments, Cash Collateral, and Variation Margin for Daily Settled Contracts⁽¹⁾
Assets:						
Cash and due from banks	\$ 8,383	\$ 8,383	\$ 8,383	\$ —	\$ —	\$ —
Interest-bearing deposits	154	154	—	154	—	—
Securities purchased under agreements to resell	1,804,271	1,804,270	—	1,804,270	—	—
Federal funds sold	10,410,000	10,410,000	—	10,410,000	—	—
Trading securities	835	835	—	835	—	—
Available-for-sale securities	550,017	550,017	—	550,017	—	—
Held-to-maturity securities	14,809,839	14,757,413	—	14,757,413	—	—
Advances ⁽²⁾	67,943,456	67,993,978	—	67,993,978	—	—
Mortgage loans held for portfolio, net	9,503,256	9,593,354	—	9,574,805	18,549	—
Accrued interest receivable	126,411	126,411	—	126,411	—	—
Derivative assets	79,510	79,510	—	47,041	—	32,469
Liabilities:						
Deposits	617,674	617,579	—	617,579	—	—
Consolidated Obligations:						
Discount Notes	49,539,728	49,542,272	—	49,542,272	—	—
Bonds ⁽³⁾	49,298,385	49,435,599	—	49,435,599	—	—
Mandatorily redeemable capital stock	31,414	31,414	31,414	—	—	—
Accrued interest payable	137,272	137,272	—	137,272	—	—
Derivative liabilities	3,669	3,669	—	72,282	—	(68,613)
Other:						
Standby bond purchase agreements	—	354	—	354	—	—

(1) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions, cash collateral and related accrued interest held or placed by the FHLB with the same counterparty, and effective January 3, 2017, includes fair value adjustments on derivatives for which variation margin is characterized as a daily settled contract. Variation margin for daily settled contracts was (in thousands) \$56,057 at September 30, 2017.

(2) Includes (in thousands) \$15,052 of Advances recorded under the fair value option at September 30, 2017.

(3) Includes (in thousands) \$5,810,798 of Consolidated Obligation Bonds recorded under the fair value option at September 30, 2017.

Financial Instruments	December 31, 2016						
	Carrying Value	Fair Value					Netting Adjustments and Cash Collateral⁽¹⁾
		Total	Level 1	Level 2	Level 3		
Assets:							
Cash and due from banks	\$ 8,737	\$ 8,737	\$ 8,737	\$ —	\$ —	\$ —	
Interest-bearing deposits	129	129	—	129	—	—	
Securities purchased under agreements to resell	5,229,487	5,229,487	—	5,229,487	—	—	
Federal funds sold	4,257,000	4,257,000	—	4,257,000	—	—	
Trading securities	970	970	—	970	—	—	
Available-for-sale securities	1,300,023	1,300,023	—	1,300,023	—	—	
Held-to-maturity securities	14,546,979	14,413,231	—	14,413,231	—	—	
Advances ⁽²⁾	69,882,074	69,842,730	—	69,842,730	—	—	
Mortgage loans held for portfolio, net	9,148,718	9,174,790	—	9,152,186	22,604	—	
Accrued interest receivable	109,886	109,886	—	109,886	—	—	
Derivative assets	104,753	104,753	—	53,849	—	50,904	
Liabilities:							
Deposits	765,879	765,628	—	765,628	—	—	
Consolidated Obligations:							
Discount Notes	44,689,662	44,689,594	—	44,689,594	—	—	
Bonds ⁽³⁾	53,190,866	53,278,571	—	53,278,571	—	—	
Mandatorily redeemable capital stock	34,782	34,782	34,782	—	—	—	
Accrued interest payable	119,322	119,322	—	119,322	—	—	
Derivative liabilities	17,874	17,874	—	102,065	—	(84,191)	
Other:							
Standby bond purchase agreements	—	708	—	708	—	—	

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

(2) Includes (in thousands) \$15,093 of Advances recorded under the fair value option at December 31, 2016.

(3) Includes (in thousands) \$7,895,510 of Consolidated Obligation Bonds recorded under the fair value option at December 31, 2016.

Summary of Valuation Methodologies and Primary Inputs.

A description of the valuation methodologies and primary inputs is disclosed in Note 19 - Fair Value Disclosures in the FHLB's 2016 Annual Report on Form 10-K. There have been no significant changes in the valuation methodologies during 2017.

Fair Value Measurements.

Table 18.2 presents the fair value of financial assets and liabilities that are recorded on a recurring or nonrecurring basis at September 30, 2017 and December 31, 2016, by level within the fair value hierarchy. The FHLB records nonrecurring fair value adjustments to reflect partial write-downs on certain mortgage loans.

Table 18.2 - Fair Value Measurements (in thousands)

	Fair Value Measurements at September 30, 2017				
	Total	Level 1	Level 2	Level 3	Netting Adjustments, Cash Collateral, and Variation Margin for Daily Settled Contracts ⁽¹⁾
Recurring fair value measurements - Assets					
Trading securities:					
Other U.S. obligation single-family mortgage-backed securities	\$ 835	\$ —	\$ 835	\$ —	\$ —
Available-for-sale securities:					
Certificates of deposit	550,017	—	550,017	—	—
Advances	15,052	—	15,052	—	—
Derivative assets:					
Interest rate related	75,729	—	43,260	—	32,469
Forward rate agreements	1,863	—	1,863	—	—
Mortgage delivery commitments	1,918	—	1,918	—	—
Total derivative assets	79,510	—	47,041	—	32,469
Total assets at fair value	\$ 645,414	\$ —	\$ 612,945	\$ —	\$ 32,469
Recurring fair value measurements - Liabilities					
Consolidated Obligation Bonds	\$ 5,810,798	\$ —	\$ 5,810,798	\$ —	\$ —
Derivative liabilities:					
Interest rate related	3,249	—	71,862	—	(68,613)
Forward rate agreement	1	—	1	—	—
Mortgage delivery commitments	419	—	419	—	—
Total derivative liabilities	3,669	—	72,282	—	(68,613)
Total liabilities at fair value	\$ 5,814,467	\$ —	\$ 5,883,080	\$ —	\$ (68,613)
Nonrecurring fair value measurements - Assets⁽²⁾					
Mortgage loans held for portfolio	\$ 496	\$ —	\$ —	\$ 496	

(1) Amounts represent the application of the netting requirements that allow the FHLB to settle positive and negative positions, cash collateral and related accrued interest held or placed by the FHLB with the same counterparty, and effective January 3, 2017, includes fair value adjustments on derivatives for which variation margin is characterized as a daily settled contract. Variation margin for daily settled contracts was (in thousands) \$56,057 at September 30, 2017.

(2) The fair value information presented is as of the date the fair value adjustment was recorded during the nine months ended September 30, 2017.

Fair Value Measurements at December 31, 2016

	Total	Level 1	Level 2	Level 3	Netting Adjustment and Cash Collateral ⁽¹⁾
Recurring fair value measurements - Assets					
Trading securities:					
Other U.S. obligation single-family mortgage-backed securities	\$ 970	\$ —	\$ 970	\$ —	\$ —
Available-for-sale securities:					
Certificates of deposit	1,300,023	—	1,300,023	—	—
Advances	15,093	—	15,093	—	—
Derivative assets:					
Interest rate related	103,753	—	52,849	—	50,904
Forward rate agreements	681	—	681	—	—
Mortgage delivery commitments	319	—	319	—	—
Total derivative assets	104,753	—	53,849	—	50,904
Total assets at fair value	<u>\$ 1,420,839</u>	<u>\$ —</u>	<u>\$ 1,369,935</u>	<u>\$ —</u>	<u>\$ 50,904</u>
Recurring fair value measurements - Liabilities					
Consolidated Obligation Bonds	\$ 7,895,510	\$ —	\$ 7,895,510	\$ —	\$ —
Derivative liabilities:					
Interest rate related	7,080	—	91,271	—	(84,191)
Forward rate agreements	166	—	166	—	—
Mortgage delivery commitments	10,628	—	10,628	—	—
Total derivative liabilities	17,874	—	102,065	—	(84,191)
Total liabilities at fair value	<u>\$ 7,913,384</u>	<u>\$ —</u>	<u>\$ 7,997,575</u>	<u>\$ —</u>	<u>\$ (84,191)</u>
Nonrecurring fair value measurements - Assets ⁽²⁾					
Mortgage loans held for portfolio	\$ 1,388	\$ —	\$ —	\$ 1,388	

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

(2) The fair value information presented is as of the date the fair value adjustment was recorded during the year ended December 31, 2016.

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

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

For instruments recorded under the fair value option, the related contractual interest income and contractual interest expense are recorded as part of net interest income on the Statements of Income. The remaining changes in fair value for instruments in which the fair value option has been elected are recorded as “Net gains (losses) on financial instruments held under fair value option” in the Statements of Income. The net gains (losses) on financial instruments held under the fair value option were (in thousands) \$87 and \$9,734 for the three months ended September 30, 2017 and 2016, and (in thousands) \$(12,371) and \$(23,213) for the nine months ended September 30, 2017 and 2016. The FHLB has determined that no adjustments to the fair values of its instruments recorded under the fair value option for instrument-specific credit risk were necessary as of September 30, 2017 or December 31, 2016.

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

Table 18.3 – Aggregate Unpaid Balance and Aggregate Fair Value (in thousands)

	September 30, 2017			December 31, 2016		
	Aggregate Unpaid Principal Balance	Aggregate Fair Value	Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance	Aggregate Unpaid Principal Balance	Aggregate Fair Value	Aggregate Fair Value Over/ (Under) Aggregate Unpaid Principal Balance
Advances ⁽¹⁾	\$ 15,000	\$ 15,052	\$ 52	\$ 15,000	\$ 15,093	\$ 93
Consolidated Bonds	5,834,265	5,810,798	(23,467)	7,926,000	7,895,510	(30,490)

(1) At September 30, 2017 and December 31, 2016, none of the Advances were 90 days or more past due or had been placed on non-accrual status.

Note 19 - Commitments and Contingencies

Table 19.1 - Off-Balance Sheet Commitments (in thousands)

Notional Amount	September 30, 2017			December 31, 2016		
	Expire within one year	Expire after one year	Total	Expire within one year	Expire after one year	Total
Standby Letters of Credit outstanding	\$ 16,618,345	\$ 177,902	\$ 16,796,247	\$ 17,029,024	\$ 479,119	\$ 17,508,143
Commitments for standby bond purchases	27,230	44,645	71,875	28,810	77,240	106,050
Commitments to purchase mortgage loans	361,482	—	361,482	440,849	—	440,849
Unsettled Consolidated Discount Notes, at par ⁽¹⁾	22,827	—	22,827	5,500	—	5,500

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

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

Note 20 - Transactions with Other FHLBanks

The FHLB notes all transactions with other FHLBanks on the face of its financial statements. Occasionally, the FHLB loans short-term funds to and borrows short-term funds from other FHLBanks. These loans and borrowings are transacted at then current market rates when traded. There were no such loans or borrowings outstanding at September 30, 2017 or December 31, 2016. The following table details the average daily balance of lending and borrowing between the FHLB and other FHLBanks for the nine months ended September 30, 2017 and 2016.

Table 20.1 - Lending and Borrowing Between the FHLB and Other FHLBanks (in thousands)

	Average Daily Balances for the Nine Months Ended September 30,	
	2017	2016
Loans to other FHLBanks	\$ 18	\$ —
Borrowings from other FHLBanks	916	—

In addition, the FHLB may, from time to time, assume the outstanding primary liability for Consolidated Obligations of another FHLBank (at then current market rates on the day when the transfer is traded) rather than issuing new debt for which the FHLB is the primary obligor. The FHLB then becomes the primary obligor on the transferred debt. There were no Consolidated Obligations transferred to the FHLB during the nine months ended September 30, 2017 or 2016. The FHLB had no Consolidated Obligations transferred to other FHLBanks during these periods.

Note 21 - Transactions with Stockholders

As a cooperative, the FHLB's capital stock is owned by its members, by former members that retain the stock as provided in the FHLB's Capital Plan and by nonmember institutions that have acquired members and must retain the stock to support Advances or other activities with the FHLB. All Advances are issued to members and all mortgage loans held for portfolio are purchased from members. The FHLB also maintains demand deposit accounts for members, primarily to facilitate settlement activities that are directly related to Advances and mortgage loan purchases. Additionally, the FHLB may enter into interest rate swaps with its stockholders. The FHLB may not invest in any equity securities issued by its stockholders and it has not purchased any mortgage-backed securities securitized by, or other direct long-term investments in, its stockholders.

For financial statement purposes, the FHLB defines related parties as those members with more than 10 percent of the voting interests of the FHLB capital stock outstanding. Federal statute prescribes the voting rights of members in the election of both member and independent directors. For member directorships, the Finance Agency designates the number of member directorships in a given year and an eligible voting member may vote only for candidates seeking election in its respective state. For independent directors, the FHLB's Board of Directors nominates candidates to be placed on the ballot in an at-large election. For both member and independent director elections, a member is entitled to vote one share of required capital stock, subject to a statutory limitation, for each applicable directorship. Under this limitation, the total number of votes that a member may cast is limited to the average number of shares of the FHLB's capital stock that were required to be held by all members in that state as of the record date for voting. Nonmember stockholders are not eligible to vote in director elections. Due to these statutory limitations, no member owned more than 10 percent of the voting interests of the FHLB at September 30, 2017 or December 31, 2016.

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

Transactions with Directors' Financial Institutions. In the ordinary course of its business, the FHLB may provide products and services to members whose officers or directors serve as directors of the FHLB (Directors' Financial Institutions). Finance Agency regulations require that transactions with Directors' Financial Institutions be made on the same terms as those with any other member. The following table reflects balances with Directors' Financial Institutions for the items indicated below. The FHLB had no mortgage-backed securities or derivatives transactions with Directors' Financial Institutions at September 30, 2017 or December 31, 2016.

Table 21.1 - Transactions with Directors' Financial Institutions (dollars in millions)

	September 30, 2017		December 31, 2016	
	Balance	% of Total ⁽¹⁾	Balance	% of Total ⁽¹⁾
Advances	\$ 3,444	5.1%	\$ 3,947	5.6%
MPP	111	1.2	234	2.6
Regulatory capital stock	185	4.3	166	4.0

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

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

Table 21.2 - Stockholders Holding Five Percent or more of Regulatory Capital Stock (dollars in millions)

	Regulatory Capital Stock		Advance Principal	MPP Unpaid Principal Balance
	Balance	% of Total		
September 30, 2017				
JPMorgan Chase Bank, N.A.	\$ 1,059	25%	\$ 25,850	\$ —
U.S. Bank, N.A.	593	14	7,453	24
The Huntington National Bank	282	7	307	423
Fifth Third Bank	248	6	4,717	2
December 31, 2016				
JPMorgan Chase Bank, N.A.	\$ 1,317	31%	\$ 32,300	\$ —
U.S. Bank, N.A.	475	11	8,563	27
Fifth Third Bank	248	6	2,517	2
The Huntington National Bank	244	6	2,433	388

Nonmember Affiliates. The FHLB has relationships with three nonmember affiliates, the Kentucky Housing Corporation, the Ohio Housing Finance Agency and the Tennessee Housing Development Agency. The FHLB had no investments in or borrowings to any of these nonmember affiliates at September 30, 2017 or December 31, 2016. The FHLB has executed standby bond purchase agreements with one state housing authority whereby the FHLB, for a fee, agrees as a liquidity provider if required, to purchase and hold the authority's bonds until the designated marketing agent can find a suitable investor or the housing authority repurchases the bond according to a schedule established by the standby agreement. During the first nine months of 2017 and 2016, the FHLB was not required to purchase any bonds under these agreements.

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

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

- the effects of economic, financial, credit, market, and member conditions on our financial condition and results of operations, including changes in economic growth, general liquidity conditions, inflation and deflation, interest rates, interest rate spreads, interest rate volatility, mortgage originations, prepayment activity, housing prices, asset delinquencies, and members' mergers and consolidations, deposit flows, liquidity needs, and loan demand;
- political events, including legislative, regulatory, federal government, judicial or other developments that could affect us, our members, our counterparties, other Federal Home Loan Banks (FHLBanks) and other government-sponsored enterprises (GSEs), and/or investors in the Federal Home Loan Bank System's (FHLBank System) debt securities, which are called Consolidated Obligations or Obligations;
- competitive forces, including those related to other sources of funding available to members, to purchases of mortgage loans, and to our issuance of Consolidated Obligations;
- the financial results and actions of other FHLBanks that could affect our ability, in relation to the FHLBank System's joint and several liability for Consolidated Obligations, to access the capital markets on favorable terms or preserve our profitability, or could alter the regulations and legislation to which we are subject;
- changes in ratings assigned to FHLBank System Obligations or the FHLB that could raise our funding cost;
- changes in investor demand for Obligations;
- the volatility of market prices, interest rates, credit quality, and other indices that could affect the value of investments and collateral we hold as security for member obligations and/or for counterparty obligations;
- the ability to attract and retain skilled management and other key employees;
- the ability to develop and support technology and information systems that effectively manage the risks we face (including cybersecurity risks);
- the risk of loss arising from failures or interruptions in our ongoing business operations, internal controls, information systems or other operating technologies;
- the ability to successfully manage new products and services; and
- the risk of loss arising from litigation filed against us or one or more other FHLBanks.

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

EXECUTIVE OVERVIEW

The following table presents selected Statement of Condition data, Statement of Income data and financial ratios for the periods indicated. The FHLB's change to the contractual interest method for amortizing premiums and accreting discounts on mortgage loans held for portfolio has been reported through retroactive application of the change in accounting principle to all periods presented. See Note 1 of the Notes to Unaudited Financial Statements for related disclosures.

(Dollars in millions)	September 30, 2017	June 30, 2017	March 31, 2017	December 31, 2016	September 30, 2016
<u>STATEMENT OF CONDITION DATA AT PERIOD END:</u>					
Total assets	\$ 105,251	\$ 109,053	\$ 96,328	\$ 104,635	\$ 101,547
Advances	67,943	71,088	61,286	69,882	68,873
Mortgage loans held for portfolio	9,505	9,448	9,293	9,150	8,813
Allowance for credit losses on mortgage loans	1	1	1	1	1
Investments ⁽¹⁾	27,575	27,934	25,526	25,334	23,625
Consolidated Obligations, net:					
Discount Notes	49,540	49,360	36,298	44,690	38,492
Bonds	49,298	53,359	53,497	53,191	56,750
Total Consolidated Obligations, net	98,838	102,719	89,795	97,881	95,242
Mandatorily redeemable capital stock	32	36	32	35	169
Capital:					
Capital stock - putable	4,229	4,220	4,173	4,157	4,123
Retained earnings	915	890	853	834	788
Accumulated other comprehensive loss	(12)	(12)	(13)	(13)	(12)
Total capital	5,132	5,098	5,013	4,978	4,899
<u>STATEMENT OF INCOME DATA FOR THE QUARTER:</u>					
Net interest income after provision for credit losses	\$ 110	\$ 106	\$ 103	\$ 98	\$ 93
Non-interest (loss) income	(3)	10	(11)	48	(4)
Non-interest expense	20	20	20	47	21
Affordable Housing Program assessments	9	9	7	10	7
Net income	\$ 78	\$ 87	\$ 65	\$ 89	\$ 61
<u>FINANCIAL RATIOS FOR THE QUARTER:</u>					
Dividend payout ratio ⁽²⁾	69.1%	56.3%	71.9%	47.5%	69.0%
Weighted average dividend rate ⁽³⁾	5.25	4.75	4.50	4.00	4.00
Return on average equity	5.97	6.94	5.25	7.15	4.82
Return on average assets	0.30	0.35	0.26	0.35	0.23
Net interest margin ⁽⁴⁾	0.42	0.42	0.41	0.39	0.36
Average equity to average assets	4.95	4.99	4.97	4.91	4.85
Regulatory capital ratio ⁽⁵⁾	4.92	4.72	5.25	4.80	5.00
Operating expense to average assets ⁽⁶⁾	0.064	0.060	0.068	0.072	0.064

- (1) Investments include interest bearing deposits in banks, securities purchased under agreements to resell, Federal funds sold, trading securities, available-for-sale securities, and held-to-maturity securities.
- (2) Dividend payout ratio is dividends declared in the period as a percentage of net income.
- (3) Weighted average dividend rates are dividends paid divided by the average number of shares of capital stock eligible for dividends.
- (4) Net interest margin is net interest income before provision for credit losses as a percentage of average earning assets.
- (5) Regulatory capital ratio is period-end regulatory capital (capital stock, mandatorily redeemable capital stock and retained earnings) as a percentage of period-end total assets.
- (6) Operating expenses comprise compensation and benefits and other operating expenses, which are included in non-interest expense.

Financial Condition

Mission Asset Activity

The following table summarizes our financial condition.

(In millions)	Ending Balances			Average Balances		
	September 30,		December 31,	Nine Months Ended		Year Ended
	2017	2016	2016	September 30,	September 30,	December 31,
	2017	2016	2016	2017	2016	2016
Total Assets	\$ 105,251	\$ 101,547	\$ 104,635	\$ 101,924	\$ 106,803	\$ 105,425
Mission Asset Activity:						
Advances (principal)	67,975	68,813	69,907	67,964	70,054	69,214
Mortgage Purchase Program (MPP):						
Mortgage loans held for portfolio (principal)	9,280	8,580	8,926	9,161	8,164	8,323
Mandatory Delivery Contracts (notional)	361	624	441	303	540	555
Total MPP	9,641	9,204	9,367	9,464	8,704	8,878
Letters of Credit (notional)	16,796	16,769	17,508	16,910	17,103	17,035
Total Mission Asset Activity	\$ 94,412	\$ 94,786	\$ 96,782	\$ 94,338	\$ 95,861	\$ 95,127

In the first nine months of 2017, the FHLB fulfilled its mission by providing a key source of readily available and competitively priced wholesale funding to its member financial institutions, supporting its commitment to affordable housing and community investment, and paying stockholders a competitive dividend return on their capital investment.

The balance of Mission Asset Activity – which we define as Advances, Letters of Credit, and total MPP (including purchase commitments) – was \$94.4 billion at September 30, 2017, a decrease of \$2.4 billion (two percent) from year-end 2016, primarily driven by lower Advance balances.

Based on the most-recently available figures, members funded an average of 3.3 percent of their assets with Advances, and the market penetration rate was relatively stable with over 71 percent of members holding Mission Asset Activity. As in recent years, most members continued to have modest demand for new Advance borrowings.

The MPP principal balance rose \$0.4 billion (four percent) from year-end 2016. The slower growth in the MPP compared to the growth in 2016 reflected less refinancing activity by homeowners. During the first nine months of 2017, we purchased \$1.3 billion of mortgage loans, while principal reductions totaled \$0.9 billion.

Based on earnings in the first nine months of 2017, we accrued \$25 million for the Affordable Housing Program (AHP) pool of funds to be available to members in 2018. In addition to the required AHP assessment, we continued our voluntary sponsorship of two other housing programs, which provide resources to pay for accessibility rehabilitation and emergency repairs for special needs and elderly homeowners and to help members aid their communities following natural disasters.

Investments and Other Assets

The balance of investments at September 30, 2017 was \$27.6 billion, an increase of \$2.2 billion (nine percent) from year-end 2016. At September 30, 2017, investments included \$14.8 billion of mortgage-backed securities and \$12.8 billion of other investments, which were mostly short-term instruments held for liquidity. All of our mortgage-backed securities held at September 30, 2017 were issued and guaranteed by Fannie Mae, Freddie Mac or a U.S. agency.

Investments averaged \$24.3 billion in the first nine months of 2017, a decrease of \$3.8 billion compared to the same period of 2016. It is normal for liquidity investments to vary by up to several billion dollars on a daily basis. We maintained a robust amount of asset liquidity throughout the first nine months of 2017 across a variety of liquidity measures as discussed in the "Liquidity Risk" section of "Quantitative and Qualitative Disclosures About Risk Management."

Capital

Capital adequacy remained strong in the first nine months of 2017, surpassing all minimum regulatory capital requirements. The GAAP capital-to-assets ratio at September 30, 2017 was 4.88 percent, while the regulatory capital-to-assets ratio was 4.92

percent. Both ratios exceeded the regulatory required minimum of four percent. Regulatory capital includes mandatorily redeemable capital stock accounted for as a liability under GAAP. The amounts of GAAP and regulatory capital increased \$154 million and \$150 million, respectively, in the first nine months of 2017, due to growth in retained earnings and purchases of capital stock associated with Mission Asset Activity.

Retained earnings totaled \$915 million at September 30, 2017, an increase of \$81 million (10 percent) from year-end 2016. We believe the amount of retained earnings is sufficient to protect against members' impairment risk of their capital stock investment in the FHLB and to provide the opportunity to stabilize or augment future dividends. Our capital policies and Capital Plan also have safeguards to ensure we meet regulatory and prudential capital requirements.

Results of Operations

Overall Results

The table below summarizes our results of operations.

(Dollars in millions)	Three Months Ended September 30,		Nine Months Ended September 30,		Year Ended December 31,
	2017	2016	2017	2016	2016
Net income	\$ 78	\$ 61	\$ 230	\$ 179	\$ 268
Affordable Housing Program assessments	9	7	25	20	30
Return on average equity (ROE)	5.97%	4.82%	6.06%	4.75%	5.35%
Return on average assets	0.30	0.23	0.30	0.22	0.25
Weighted average dividend rate	5.25	4.00	4.83	4.00	4.00
Average 3-month LIBOR	1.31	0.79	1.20	0.68	0.74
ROE spread to 3-month LIBOR	4.66	4.03	4.86	4.07	4.61
Dividend rate spread to 3-month LIBOR	3.94	3.21	3.63	3.32	3.26

In the three- and nine-months comparison periods, net income increased \$17 million (28 percent) and \$51 million (28 percent), respectively. The increase was the result of higher net interest income, which was driven primarily by higher net spreads earned on short-term and LIBOR-indexed assets, lower net amortization of premiums and discounts related to mortgage assets and Consolidated Obligations, and higher earnings from capital.

We believe that our operations and financial condition will continue to generate steady and competitive profitability, reflecting the combination of a stable business model and operating environment, a consistent and conservative management of risk, and a moderate increase in operating expenses. Our business model is structured to be able to absorb sharp changes in Mission Asset Activity because we can undertake commensurate changes in liability balances and capital. Factors that can cause significant periodic earnings volatility currently are changes in spreads between LIBOR and our short-term funding costs, recognition of net amortization, and unrealized fair value adjustments related to the use of derivatives.

Earnings levels continued to represent competitive returns on stockholders' capital investment. ROE was significantly higher than short-term rates in the periods presented above, while we maintained risk exposures in line with our appetite for a moderate to low-risk profile. The spread between ROE and 3-month LIBOR is a market benchmark we believe member stockholders use to assess the competitiveness of the return on their capital investment.

In September 2017, we paid stockholders a quarterly 5.25 percent annualized dividend rate on their capital investment in our company. This was an increase from the 4.75 percent dividend we paid in the second quarter of 2017 and the 4.50 percent dividend we paid in the first quarter of 2017. The increases in the dividend rates paid to stockholders during 2017 were driven in large part by the effects of higher shorter-term interest rates.

Effect of Interest Rate Environment

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

	Quarter 3 2017		Quarter 2 2017		Quarter 1 2017		Nine Months Ended September 30,		Year 2016	
	Ending	Average	Ending	Average	Ending	Average	2017 Average	2016 Average	Ending	Average
	Federal funds effective	1.06%	1.15%	1.06%	0.95%	0.82%	0.70%	0.93%	0.37%	0.55%
3-month LIBOR	1.33	1.31	1.30	1.20	1.15	1.07	1.20	0.68	1.00	0.74
2-year LIBOR	1.74	1.60	1.62	1.55	1.62	1.56	1.57	0.92	1.45	1.00
10-year LIBOR	2.29	2.20	2.28	2.21	2.38	2.38	2.26	1.61	2.34	1.70
2-year U.S. Treasury	1.49	1.36	1.38	1.29	1.26	1.23	1.29	0.77	1.19	0.83
10-year U.S. Treasury	2.33	2.24	2.31	2.26	2.39	2.44	2.31	1.74	2.45	1.84
15-year mortgage current coupon ⁽¹⁾	2.35	2.30	2.40	2.34	2.48	2.50	2.38	1.86	2.49	1.94
30-year mortgage current coupon ⁽¹⁾	2.97	2.94	3.04	3.00	3.14	3.18	3.04	2.55	3.14	2.63

(1) Simple average of current coupon rates of Fannie Mae and Freddie Mac par mortgage-backed security indications.

The continued low interest rate environment in the first nine months of 2017 benefited our results of operations. However, because the low rate environment has persisted for nearly a decade, much of the benefit has diminished over time as many assets and liabilities have fully repriced to the low rates. Results of operations continued to benefit from a lack of sharp changes in interest rates, especially upward movements.

In the first nine months of 2017, the target overnight Federal funds rate has increased from a 0.50 to 0.75 percent range to a 1.00 to 1.25 percent range. In addition, increases in short-term rates during the first nine months of 2017 improved income because we have a substantial amount of assets that reprice to current interest rates quicker than the debt funding those assets.

Average long-term rates were approximately 0.50 percentage points higher in the first nine months of 2017 compared to the same period of 2016. The increase contributed to a slowdown of activity in the mortgage market and led to a decline in the volume of mortgage loan purchases. However, the impact of fewer purchases was offset by a slower pace of portfolio paydowns.

We expect the recent movements in both short- and long-term rates will have only a modest overall effect on results of operations and profitability, outside of temporary fluctuations from net amortization and unrealized fair value adjustments on derivatives.

Effect of Economy and Financial Markets on Mission Asset Activity

In the last several years, the percentage of assets that members funded with Advances showed little variation, in the range of three to four percent. The relative balance between loan and deposit fluctuations can provide an indication of potential member Advance demand. From June 30, 2016 to June 30, 2017 (the most recent period for which data are available), aggregate loan portfolios of Fifth District depository institutions grew \$90.1 billion (6.2 percent) while their aggregate deposit balances rose \$214.7 billion (9.6 percent). Most of the loan and deposit growth in this period occurred from our largest members, which is consistent with the concentration of nationwide financial activity. We may see a broad-based increase in Advance demand if one or more of the following occur: aggregate loan portfolios of our members grow quicker than aggregate deposits, the economy experiences a sustained growth trend, interest rates continue to increase over time, or changes in Federal Reserve policy reduce other sources of liquidity available to members.

Business Outlook and Risk Management

Our major business strategies, outlook for our business, and risk profiles and management have not changed substantially since our 2016 Annual Report on Form 10-K. “Quantitative and Qualitative Disclosures About Risk Management” provides details on current risk exposures.

In July 2017, the United Kingdom’s Financial Conduct Authority, a regulator of financial services firms and financial markets in the U.K., stated that they will plan for a phase out of regulatory oversight of LIBOR interest rate indices. The Financial Conduct Authority has indicated they will support the LIBOR indices through 2021 to allow for an orderly transition to an alternative reference rate(s). Other financial services regulators and industry groups, including the International Swaps and Derivatives Association, are evaluating the possible phase-out of LIBOR and the development of alternate interest rate indices or reference rate(s). While it is unclear as to what the overall financial impact of these developments will be, many of our assets and liabilities are indexed to LIBOR, so we will continue to monitor any alternative reference rate proposals as they are developed.

ANALYSIS OF FINANCIAL CONDITION

Mission Asset Activity

Mission Assets are the primary means by which we fulfill our mission with direct connections to members. We regularly monitor our balance sheet concentration of Mission Asset Activity. In the first nine months of 2017, our Primary Mission Asset ratio, which measures the sum of average Advances and mortgage loans as a percentage of average Consolidated Obligations, was 81 percent, well above the Federal Housing Finance Agency (Finance Agency) preferred ratio of 70 percent. In assessing overall mission achievement, we also consider supplemental sources of Mission Asset Activity, the most significant of which is Letters of Credit issued to members.

Credit Services

Credit Activity and Advance Composition

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

(Dollars in millions)	September 30, 2017		June 30, 2017		March 31, 2017		December 31, 2016	
	Balance	Percent ⁽¹⁾	Balance	Percent ⁽¹⁾	Balance	Percent ⁽¹⁾	Balance	Percent ⁽¹⁾
Adjustable/Variable-Rate Indexed:								
LIBOR	\$35,567	53%	\$38,061	53%	\$40,319	66%	\$44,289	64%
Other	896	1	643	1	442	—	918	1
Total	36,463	54	38,704	54	40,761	66	45,207	65
Fixed-Rate:								
Repurchase based (REPO)	13,753	20	16,857	24	6,982	12	10,786	15
Regular Fixed-Rate	11,246	17	10,610	15	9,587	16	9,618	14
Putable ⁽²⁾	358	—	429	1	493	1	565	1
Amortizing/Mortgage Matched	2,716	4	2,698	4	2,656	4	2,596	4
Other	3,439	5	1,814	2	841	1	1,135	1
Total	31,512	46	32,408	46	20,559	34	24,700	35
Total Advances Principal	\$67,975	100%	\$71,112	100%	\$61,320	100%	\$69,907	100%
Letters of Credit (notional)	\$16,796		\$17,175		\$17,411		\$17,508	

(1) As a percentage of total Advances principal.

(2) Excludes Putable Advances where the related put options have expired. These Advances are classified based on their current terms.

The lower Advance balances at September 30, 2017 compared to year-end 2016 were primarily driven by decreases in borrowings from a few large-asset members. As shown in the table above, REPOs tend to be our most volatile Advance product because a majority of them have overnight maturities.

The ending and average Letters of Credit balances were similar as of September 30, 2017 and 2016. We normally earn fees on Letters of Credit based on the actual average amount of the Letters utilized, which generally is less than the notional amount issued.

Advance Usage

In addition to analyzing Advance balances by dollar trends and the number of members utilizing them, we monitor the degree to which members use Advances to fund their balance sheets. The following table shows the unweighted, average ratio of each member's Advance balance to its most-recently available figures for total assets.

	September 30, 2017	June 30, 2017	March 31, 2017	December 31, 2016
Average Advances-to-Assets for Members				
Assets less than \$1.0 billion (578 members)	3.11%	3.00%	2.87%	3.07%
Assets over \$1.0 billion (83 members)	4.73	4.90	4.03	3.87
All members	3.31	3.23	3.01	3.17

The Advance usage ratio across all members was slightly higher at September 30, 2017, driven by the continued modest demand for Advances.

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

(Dollars in millions)

September 30, 2017			December 31, 2016		
Name	Par Value of Advances	Percent of Total Par Value of Advances	Name	Par Value of Advances	Percent of Total Par Value of Advances
JPMorgan Chase Bank, N.A.	\$ 25,850	38%	JPMorgan Chase Bank, N.A.	\$ 32,300	46%
U.S. Bank, N.A.	7,453	11	U.S. Bank, N.A.	8,563	12
Fifth Third Bank	4,717	7	Third Federal Savings and Loan Association	3,049	4
Third Federal Savings and Loan Association	3,669	5	Fifth Third Bank	2,517	4
Nationwide Life Insurance Company	2,108	3	The Huntington National Bank	2,433	3
Total of Top 5	<u>\$ 43,797</u>	<u>64%</u>	Total of Top 5	<u>\$ 48,862</u>	<u>69%</u>

Advance concentration ratios are influenced by, and generally similar to, concentration ratios of financial activity among our Fifth District financial institutions. We believe that having large financial institutions that actively use our Mission Asset Activity augments the value of membership to all members. For example, such activity improves our operating efficiency, increases our earnings and thereby contributions to housing and community investment programs, may enable us over time to obtain more favorable funding costs, and helps us maintain competitively priced Mission Asset Activity.

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

The table below shows principal purchases and reductions of loans in the MPP for the first nine months of 2017.

(In millions)	MPP Principal
Balance at December 31, 2016	\$ 8,926
Principal purchases	1,264
Principal reductions	(910)
Balance at September 30, 2017	<u>\$ 9,280</u>

Most of the principal purchases resulted from activity of our two largest sellers who drive program balances. In the first nine months of 2017, 88 members sold us mortgage loans, with the number of monthly sellers averaging 59. All loans acquired in the first three quarters of 2017 were conventional loans.

We closely track the refinancing incentives of our mortgage assets (including loans in the MPP and mortgage-backed securities) because the option for homeowners to change their principal payments normally represents the largest portion of our market risk exposure and can affect MPP balances. MPP principal paydowns in the first nine months of 2017 equated to a nine percent annual constant prepayment rate, down from the 15 percent rate for all of 2016 due to an increase in mortgage rates in late 2016 that have persisted throughout 2017.

The MPP's composition of balances by loan type, original final maturity, and weighted-average mortgage note rate did not change materially in the first nine months of 2017. The weighted average mortgage note rate fell only 0.03 percentage points to end the quarter at 3.92 percent. MPP yields earned in the first nine months of 2017, after consideration of funding and hedging costs, continued to offer favorable returns relative to their market and credit risk exposure.

Investments

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

(In millions)	Nine Months Ended		Year Ended	
	September 30, 2017		December 31, 2016	
	Ending Balance	Average Balance	Ending Balance	Average Balance
Liquidity investments	\$ 12,798	\$ 9,570	\$ 10,818	\$ 12,177
Mortgage-backed securities	14,777	14,678	14,516	15,061
Other investments ⁽¹⁾	—	88	—	144
Total investments	<u>\$ 27,575</u>	<u>\$ 24,336</u>	<u>\$ 25,334</u>	<u>\$ 27,382</u>

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

We continued to maintain a robust amount of asset liquidity. Liquidity investment levels can vary significantly based on liquidity needs, the availability of acceptable net spreads, the number of eligible counterparties that meet our unsecured credit risk criteria, and changes in the amount of Mission Assets. It is normal for liquidity investments to vary by up to several billion dollars on a daily basis.

Our overarching strategy for balances of mortgage-backed securities is to keep holdings as close as possible to the regulatory maximum of three times regulatory capital, subject to the availability of securities that we believe provide acceptable risk/return tradeoffs. The ratio of mortgage-backed securities to regulatory capital was 2.85 at September 30, 2017. The balance of mortgage-backed securities at September 30, 2017 consisted of \$12.1 billion of securities issued by Fannie Mae or Freddie Mac (of which \$5.8 billion were floating-rate securities), \$0.6 billion of floating-rate securities issued by the National Credit Union Administration (NCUA), and \$2.1 billion of securities issued by Ginnie Mae (which are primarily fixed rate). We held no private-label mortgage-backed securities.

The table below shows principal purchases and paydowns of our mortgage-backed securities for the first nine months of 2017.

(In millions)	Mortgage-backed Securities Principal
Balance at December 31, 2016	\$ 14,487
Principal purchases	1,953
Principal paydowns	(1,689)
Balance at September 30, 2017	<u>\$ 14,751</u>

Principal paydowns in the first nine months of 2017 equated to a 14 percent annual constant prepayment rate, compared to an 18 percent rate in all of 2016.

Consolidated Obligations

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

(In millions)	Nine Months Ended September 30, 2017		Year Ended December 31, 2016	
	Ending Balance	Average Balance	Ending Balance	Average Balance
Discount Notes:				
Par	\$ 49,605	\$ 42,705	\$ 44,711	\$ 49,853
Discount	(65)	(39)	(21)	(18)
Total Discount Notes	49,540	42,666	44,690	49,835
Bonds:				
Unswapped fixed-rate	27,335	26,606	25,373	26,495
Unswapped adjustable-rate	15,210	18,890	18,290	14,512
Swapped fixed-rate	6,723	7,318	9,510	7,959
Total par Bonds	49,268	52,814	53,173	48,966
Other items ⁽¹⁾	30	34	18	68
Total Bonds	49,298	52,848	53,191	49,034
Total Consolidated Obligations ⁽²⁾	\$ 98,838	\$ 95,514	\$ 97,881	\$ 98,869

(1) Includes unamortized premiums/discounts, fair value option valuation adjustments, hedging and other basis adjustments.

(2) The 11 FHLBanks have joint and several liability for the par amount of all of the Consolidated Obligations issued on their behalves. The par amount of the outstanding Consolidated Obligations for all of the FHLBanks was (in millions) \$1,028,710 and \$989,311 at September 30, 2017 and December 31, 2016, respectively.

We fund LIBOR-indexed assets with Discount Notes, adjustable-rate Bonds, and swapped fixed-rate Bonds because they give us the ability to effectively match the LIBOR reset periods embedded in these assets. The ending balances of unswapped adjustable-rate and swapped fixed-rate Bonds were lower at September 30, 2017 due to the decrease in LIBOR-indexed Advances. At September 30, 2017, the balance of Discount Notes was higher than at year-end 2016 due to the increase in certain short-term Advances and liquidity investments at the end of the quarter. However, the average balance of Discount Notes was lower in the first nine months of 2017 primarily due to continuing to shift the composition of shorter-term funding away from Discount Notes towards adjustable-rate LIBOR Bonds, which normally have longer maturities than Discount Notes. The intent is to lower exposure to unforeseen liquidity risk and compression in spreads between LIBOR and Discount Notes. This change in funding composition has also reduced the income benefits associated with the elevated spreads in the first nine months of 2017 (compared to historical averages) between LIBOR-indexed assets and interest paid on Discount Notes.

The composition of unswapped fixed-rate Bonds, which typically have initial maturities greater than one year, was relatively stable in the first nine months of 2017 compared to 2016.

Deposits

Total deposits with us are normally a relatively minor source of low-cost funding. Total interest bearing deposits at September 30, 2017 were \$0.6 billion, a decrease of 20 percent from year-end 2016. The average balance of total interest bearing deposits in the first nine months of 2017 was \$0.7 billion, a decrease of 16 percent from the average balance during the same period of 2016.

Derivatives Hedging Activity and Liquidity

Our use of derivatives is discussed in the "Effect of the Use of Derivatives on Net Interest Income" section in "Results of Operations." Liquidity is discussed in the "Liquidity Risk" section in "Quantitative and Qualitative Disclosures About Risk Management."

Capital Resources

The following tables present capital amounts and capital-to-assets ratios, on both a GAAP and regulatory basis.

(In millions)	Nine Months Ended September 30, 2017		Year Ended December 31, 2016	
	Period End	Average	Period End	Average
	GAAP and Regulatory Capital			
GAAP Capital Stock	\$ 4,229	\$ 4,166	\$ 4,157	\$ 4,214
Mandatorily Redeemable Capital Stock	32	51	35	88
Regulatory Capital Stock	4,261	4,217	4,192	4,302
Retained Earnings	915	914	834	813
Regulatory Capital	<u>\$ 5,176</u>	<u>\$ 5,131</u>	<u>\$ 5,026</u>	<u>\$ 5,115</u>
	Nine Months Ended September 30, 2017		Year Ended December 31, 2016	
	Period End	Average	Period End	Average
GAAP and Regulatory Capital-to-Assets Ratio				
GAAP	4.88%	4.97%	4.76%	4.76%
Regulatory ⁽¹⁾	4.92	5.03	4.80	4.85

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

We consider the regulatory ratio to be a better representation of financial leverage than the GAAP ratio because, although the GAAP ratio treats mandatorily redeemable capital stock as a liability, it protects investors in our debt in the same manner as GAAP capital stock and retained earnings.

A portion of capital stock is excess, meaning it is not required as a condition to being a member and not required to capitalize Mission Asset Activity. Excess capital stock provides a base of capital to manage financial leverage at prudent levels, augments loss protections for bondholders, and capitalizes a portion of growth in Mission Assets. The amount of excess capital stock, as defined by our Capital Plan, was \$463 million at September 30, 2017. We could repurchase all excess stock on a timely basis and continue to meet our regulatory and prudential capital requirements. See the "Capital Adequacy" section in "Quantitative and Qualitative Disclosures About Risk Management" for discussion of our retained earnings.

Membership and Stockholders

In the first nine months of 2017, we added nine new member stockholders and lost 35 members, ending the quarter at 661 member stockholders. The 35 members lost included 17 members that merged with other Fifth District members, six that merged out of the District, one that withdrew from membership, and 11 captive insurance companies that were no longer eligible for membership effective February 2017 based on the Finance Agency's 2016 final rule on membership requirements. The subsequent loss of the captive insurance company members did not significantly affect our financial condition or results of operations.

RESULTS OF OPERATIONS

Components of Earnings and Return on Equity

The following table is a summary income statement for the three and nine months ended September 30, 2017 and 2016. Each ROE percentage is computed by dividing income or expense for the category by the average amount of stockholders' equity for the period.

(Dollars in millions)	Three Months Ended September 30,				Nine Months Ended September 30,			
	2017		2016		2017		2016	
	Amount	ROE ⁽¹⁾	Amount	ROE ⁽¹⁾	Amount	ROE ⁽¹⁾	Amount	ROE ⁽¹⁾
Net interest income	\$ 110	8.49%	\$ 93	7.39%	\$ 319	8.43%	\$ 265	7.04%
Provision for credit losses	—	0.04	—	—	—	0.01	—	—
Net interest income after provision for credit losses	110	8.45	93	7.39	319	8.42	265	7.04
Non-interest (loss) income:								
Net (losses) gains on derivatives and hedging activities	(7)	(0.52)	(18)	(1.39)	(2)	(0.04)	10	0.28
Net gains (losses) on financial instruments held under fair value option	—	0.01	10	0.77	(12)	(0.33)	(23)	(0.62)
Other non-interest income, net	4	0.26	4	0.29	10	0.27	11	0.29
Total non-interest (loss) income	(3)	(0.25)	(4)	(0.33)	(4)	(0.10)	(2)	(0.05)
Total income	107	8.20	89	7.06	315	8.32	263	6.99
Non-interest expense	20	1.56	21	1.70	60	1.58	64	1.70
Affordable Housing Program assessments	9	0.67	7	0.54	25	0.68	20	0.54
Net income	\$ 78	5.97%	\$ 61	4.82%	\$ 230	6.06%	\$ 179	4.75%

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

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

Net Interest Income

Components of Net Interest Income

The following table shows the major components of net interest income.

(Dollars in millions)	Three Months Ended September 30,				Nine Months Ended September 30,			
	2017		2016		2017		2016	
	Amount	% of Earning Assets	Amount	% of Earning Assets	Amount	% of Earning Assets	Amount	% of Earning Assets
Components of net interest rate spread:								
Net (amortization)/accretion ⁽¹⁾⁽²⁾	\$ (5)	(0.02)%	\$ (15)	(0.06)%	\$ (15)	(0.02)%	\$ (40)	(0.05)%
Prepayment fees on Advances, net ⁽²⁾	1	—	5	0.02	1	—	9	0.01
Other components of net interest rate spread	96	0.37	91	0.35	286	0.38	261	0.33
Total net interest rate spread	92	0.35	81	0.31	272	0.36	230	0.29
Earnings from funding assets with interest-free capital	18	0.07	12	0.05	47	0.06	35	0.04
Total net interest income/net interest margin ⁽³⁾	\$ 110	0.42 %	\$ 93	0.36 %	\$ 319	0.42 %	\$ 265	0.33 %

- (1) Includes (amortization)/accretion of premiums/discounts on mortgage assets and Consolidated Obligations and deferred transaction costs (concession fees) for Consolidated Obligations.
- (2) These components of net interest rate spread have been segregated to display their relative impact.
- (3) Net interest margin is net interest income before provision for credit losses as a percentage of average total interest earning assets.

Net Amortization/Accretion: Net amortization/accretion (generally referred to as "amortization") includes monthly recognition of premiums and discounts paid on purchases of mortgage assets, as well as premiums, discounts and concessions paid on Consolidated Obligations. Periodic amortization adjustments do not necessarily indicate a trend in economic return over the entire life of mortgage assets, although it is one component of lifetime economic returns.

Amortization decreased in the three and nine months ended September 30, 2017 compared to the same periods in 2016 primarily due to lower amortization of issuance costs (concession fees) on Consolidated Obligations and lower amortization of purchased mortgage premiums. Concession fee amortization was higher in the 2016 periods because of the decision to call certain bonds as rates fell during the first two quarters of 2016. Amortization of purchased mortgage premiums was lower in the 2017 periods as a result of slower prepayments (actual and projected, as applicable) given the slight increase in mortgage rates in late 2016 that have persisted throughout 2017.

Prepayment Fees on Advances: Fees for members' early repayment of certain Advances are designed to make us economically indifferent to whether members hold Advances to maturity or repay them before maturity. Although Advance prepayment fees can be and have been significant in the past, they were minimal in the three and nine months ended September 30, 2017, reflecting a low amount of member prepayments of Advances. Advance prepayment fees were higher in the 2016 periods due to the prepayment of Advances related to an in-district merger in the third quarter of 2016.

Other Components of Net Interest Rate Spread: Excluding net amortization and prepayment fees, the total other components of net interest rate spread increased \$5 million and \$25 million in the three- and nine-months comparison periods, respectively. The following factors primarily accounted for the net increase.

Nine-Months Comparison

- **Higher spreads on short-term and LIBOR-indexed Advances-Favorable:** Net interest income from short-term and LIBOR-indexed Advances increased by an estimated \$40 million. This increase in interest income was partially offset by earnings reductions in other non-interest income related to derivatives and hedging activities. The net increase to earnings is primarily because yields on these Advances rose by more than the rates on Discount Notes and adjustable-rate Bonds funding them. These spreads widened due to interest rates on short-term Advances repricing quicker than the debt funding them and due to new regulatory requirements for the money market industry, which became effective in October 2016. These new requirements have raised investor demand for short-term government and GSE debt compared to prime institutional funds, improving the pricing advantage for our funding. This factor was partially offset by a decrease in the amount of LIBOR-indexed assets funded by lower-cost Discount Notes.

- **Growth in MPP balances-Favorable:** A \$1.0 billion higher average balance of MPP loans increased net interest income by an estimated \$11 million.
- **Higher spreads on liquidity investments-Favorable:** Higher spreads earned on liquidity investments increased net interest income by an estimated \$7 million. These spreads widened primarily due to liquidity investments repricing to higher rates quicker than the debt funding them and due to the improved pricing advantage for our funding given the money market reform discussed above.
- **Lower spreads on mortgage assets-Unfavorable:** Lower spreads earned on MPP loans and mortgage-backed securities decreased net interest income by an estimated \$28 million. The decline was driven by actions taken to reduce market risk exposure, and by continued paydowns of higher-yielding mortgage assets and low-cost debt. These negative factors were partially offset by an increase in spreads earned on MPP loans from additional utilization of hedging with derivatives (swaptions) and the decision to call and replace certain debt at lower rates throughout the first three quarters of 2016.
- **Lower Advance balances-Unfavorable:** The \$2.2 billion decline in average Advance balances decreased net interest income by an estimated \$4 million.

Three-Months Comparison

For the three-months comparison, higher spreads on short-term and LIBOR-indexed Advances, growth in MPP balances, and lower spreads on mortgage assets affected the other components of net interest rate spread in approximately the same relative magnitude as in the nine-months comparison.

Earnings from Capital: Earnings from funding assets with interest-free capital increased \$6 million and \$12 million in the three- and nine-months comparison periods, respectively. The increase was due to modestly higher interest rates driven in part by the Federal Reserve's decision to raise short-term rates and the increase in short-term LIBOR.

Average Balance Sheet and Rates

The following tables provide average balances and rates for major balance sheet accounts, which determine the changes in the net interest rate spread. All data include the impact of interest rate swaps, which we allocate to each asset and liability category according to their designated hedging relationship.

(Dollars in millions)	Three Months Ended September 30, 2017			Three Months Ended September 30, 2016		
	Average Balance	Interest	Average Rate ⁽¹⁾	Average Balance	Interest	Average Rate ⁽¹⁾
Assets:						
Advances	\$ 68,738	\$ 252	1.45%	\$ 68,114	\$ 152	0.89%
Mortgage loans held for portfolio ⁽²⁾	9,503	75	3.12	8,649	64	2.96
Federal funds sold and securities purchased under resale agreements	10,358	30	1.16	10,324	10	0.41
Interest-bearing deposits in banks ⁽³⁾⁽⁴⁾⁽⁵⁾	626	2	1.15	1,209	2	0.59
Mortgage-backed securities	14,748	78	2.11	15,065	80	2.12
Other investments	34	—	1.01	31	—	0.45
Loans to other FHLBanks	—	—	—	—	—	—
Total interest-earning assets	104,007	437	1.67	103,392	308	1.18
Less: allowance for credit losses on mortgage loans	1			1		
Other assets	256			231		
Total assets	<u>\$ 104,262</u>			<u>\$ 103,622</u>		
Liabilities and Capital:						
Term deposits	\$ 62	—	0.91	\$ 97	—	0.39
Other interest bearing deposits ⁽⁵⁾	589	1	0.81	734	—	0.11
Discount Notes	46,787	124	1.05	43,592	38	0.34
Unswapped fixed-rate Bonds	27,360	135	1.95	25,702	130	2.01
Unswapped adjustable-rate Bonds	16,960	48	1.11	18,148	26	0.57
Swapped Bonds	6,688	18	1.08	9,596	20	0.82
Mandatorily redeemable capital stock	68	1	5.59	88	1	3.96
Other borrowings	—	—	—	—	—	—
Total interest-bearing liabilities	98,514	327	1.32	97,957	215	0.87
Non-interest bearing deposits	2			1		
Other liabilities	583			638		
Total capital	5,163			5,026		
Total liabilities and capital	<u>\$ 104,262</u>			<u>\$ 103,622</u>		
Net interest rate spread			0.35%			0.31%
Net interest income and net interest margin ⁽⁶⁾		\$ 110	0.42%		\$ 93	0.36%
Average interest-earning assets to interest-bearing liabilities			105.58%			105.55%

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

(2) Non-accrual loans are included in average balances used to determine average rate.

(3) Includes certificates of deposit that are classified as available-for-sale securities.

(4) Includes available-for-sale securities based on their amortized costs. The yield information does not give effect to changes in fair value that are reflected as a component of stockholders' equity for available-for-sale securities.

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

(6) Net interest margin is net interest income before provision for credit losses as a percentage of average total interest earning assets.

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(Dollars in millions)	Nine Months Ended September 30, 2017			Nine Months Ended September 30, 2016		
	Average Balance	Interest	Average Rate ⁽¹⁾	Average Balance	Interest	Average Rate ⁽¹⁾
Assets:						
Advances	\$ 67,942	\$ 649	1.28%	\$ 70,135	\$ 428	0.81%
Mortgage loans held for portfolio ⁽²⁾	9,383	221	3.16	8,379	197	3.13
Federal funds sold and securities purchased under resale agreements	8,978	64	0.95	11,834	33	0.37
Interest-bearing deposits in banks ^{(3) (4) (5)}	647	5	0.95	1,078	4	0.52
Mortgage-backed securities	14,678	227	2.07	15,144	247	2.18
Other investments	33	—	0.74	31	—	0.44
Loans to other FHLBanks	—	—	—	—	—	—
Total interest-earning assets	101,661	1,166	1.53	106,601	909	1.14
Less: allowance for credit losses on mortgage loans	1			1		
Other assets	264			203		
Total assets	<u>\$101,924</u>			<u>\$106,803</u>		
Liabilities and Capital:						
Term deposits	\$ 82	—	0.65	\$ 102	—	0.31
Other interest bearing deposits ⁽⁵⁾	623	3	0.58	737	1	0.12
Discount Notes	42,666	261	0.82	53,111	137	0.34
Unswapped fixed-rate Bonds	26,667	392	1.97	26,880	407	2.02
Unswapped adjustable-rate Bonds	18,890	133	0.94	13,000	52	0.53
Swapped Bonds	7,291	56	1.03	7,235	44	0.81
Mandatorily redeemable capital stock	51	2	5.29	99	3	3.99
Other borrowings	1	—	0.88	—	—	—
Total interest-bearing liabilities	96,271	847	1.17	101,164	644	0.85
Non-interest bearing deposits	2			1		
Other liabilities	584			610		
Total capital	5,067			5,028		
Total liabilities and capital	<u>\$101,924</u>			<u>\$106,803</u>		
Net interest rate spread			0.36%			0.29%
Net interest income and net interest margin ⁽⁶⁾		\$ 319	0.42%	\$ 265		0.33%
Average interest-earning assets to interest-bearing liabilities			105.60%			105.38%

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

Rates on shorter-term interest-earning assets (short-term Advances, Federal funds sold and securities purchased under resale agreements, and interest-bearing deposits in banks) rose in the three and nine months ended September 30, 2017 compared to the same periods in 2016 following the recent increases in the Federal funds target rate and subsequent increases in short-term LIBOR. The result was an increase in the net average rate on total interest-earning assets of 0.49 percentage points and 0.39 percentage points in the three- and nine-months comparison periods, respectively.

The increase in average rates on total interest-bearing liabilities was driven by higher rates on shorter-term liabilities that reset similarly to short-term assets, which represent the largest component of our liability portfolio.

The net impact was an overall increase in net interest spread and margin in the three- and nine-months comparison periods due to the net effect of the favorable earnings factors discussed in the previous section, with the largest contributing factor being the larger increase in rates earned on certain short-term and LIBOR-indexed assets relative to the associated funding.

Volume/Rate Analysis

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

(In millions)	Three Months Ended September 30, 2017 over 2016			Nine Months Ended September 30, 2017 over 2016		
	Volume ⁽¹⁾⁽³⁾	Rate ⁽²⁾⁽³⁾	Total	Volume ⁽¹⁾⁽³⁾	Rate ⁽²⁾⁽³⁾	Total
<u>Increase (decrease) in interest income</u>						
Advances	\$ 1	\$ 99	\$ 100	\$ (14)	\$ 235	\$ 221
Mortgage loans held for portfolio	7	4	11	23	1	24
Federal funds sold and securities purchased under resale agreements	—	20	20	(9)	40	31
Interest-bearing deposits in banks	(1)	1	—	(2)	3	1
Mortgage-backed securities	(2)	—	(2)	(7)	(13)	(20)
Other investments	—	—	—	—	—	—
Loans to other FHLBanks	—	—	—	—	—	—
Total	5	124	129	(9)	266	257
<u>Increase (decrease) in interest expense</u>						
Term deposits	—	—	—	—	—	—
Other interest-bearing deposits	—	1	1	—	2	2
Discount Notes	3	83	86	(31)	155	124
Unswapped fixed-rate Bonds	8	(3)	5	(3)	(12)	(15)
Unswapped adjustable-rate Bonds	(2)	24	22	30	51	81
Swapped Bonds	(7)	5	(2)	—	12	12
Mandatorily redeemable capital stock	—	—	—	(2)	1	(1)
Other borrowings	—	—	—	—	—	—
Total	2	110	112	(6)	209	203
Increase (decrease) in net interest income	\$ 3	\$ 14	\$ 17	\$ (3)	\$ 57	\$ 54

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

Effect of the Use of Derivatives on Net Interest Income

The following table shows the effect of using derivatives on net interest income. The effect on earnings from other components of derivatives, including market value adjustments, is provided in “Non-Interest Income and Non-Interest Expense.”

(In millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Advances:				
Amortization of hedging activities in net interest income	\$ —	\$ (1)	\$ (2)	\$ (2)
Net interest settlements included in net interest income	(3)	(15)	(15)	(49)
Mortgage loans:				
Amortization of derivative fair value adjustments in net interest income	(1)	(2)	(2)	(5)
Consolidated Obligation Bonds:				
Net interest settlements included in net interest income	(1)	1	—	7
Decrease to net interest income	<u>\$ (5)</u>	<u>\$ (17)</u>	<u>\$ (19)</u>	<u>\$ (49)</u>

Most of our use of derivatives synthetically convert the intermediate- and long-term fixed interest rates on certain Advances and Bonds to adjustable-coupon rates tied to short-term LIBOR (one- and three-month repricing resets). These adjustable-rate coupons normally carry lower interest rates than the fixed-rates. The use of derivatives lowered net interest income in each period primarily because the Advances that were swapped to short-term LIBOR had higher fixed interest rates than the Bonds that were swapped to short-term LIBOR. However, the reduction in earnings was less in the three and nine months of 2017 due to the recent increases in short-term LIBOR.

Provision for Credit Losses

In the first nine months of 2017, we recorded a \$0.5 million provision for estimated incurred credit losses in the MPP related to the hurricanes that impacted the United States in the third quarter of 2017 compared to no provision for estimated incurred credit losses in the same period of 2016. See the "Credit Risk - MPP" section in "Quantitative and Qualitative Disclosures About Risk Management" and Note 9 of the Notes to Unaudited Financial Statements for additional information on credit exposure in the MPP.

Non-Interest Income and Non-Interest Expense

The following table presents non-interest income and non-interest expense.

(Dollars in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<u>Non-interest (loss) income</u>				
Net (losses) gains on derivatives and hedging activities	\$ (7)	\$ (18)	\$ (2)	\$ 10
Net gains (losses) on financial instruments held under fair value option	—	10	(12)	(23)
Other non-interest income, net	4	4	10	11
Total non-interest (loss) income	<u>\$ (3)</u>	<u>\$ (4)</u>	<u>\$ (4)</u>	<u>\$ (2)</u>
<u>Non-interest expense</u>				
Compensation and benefits	\$ 12	\$ 11	\$ 34	\$ 31
Other operating expense	5	6	15	18
Finance Agency	2	1	5	5
Office of Finance	1	1	3	3
Other	—	2	3	7
Total non-interest expense	<u>\$ 20</u>	<u>\$ 21</u>	<u>\$ 60</u>	<u>\$ 64</u>
Average total assets	\$ 104,262	\$ 103,622	\$ 101,924	\$ 106,803
Average regulatory capital	5,243	5,126	5,131	5,140
Total non-interest expense to average total assets ⁽¹⁾	0.08%	0.08%	0.08%	0.08%
Total non-interest expense to average regulatory capital ⁽¹⁾	1.53	1.67	1.56	1.67

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

Non-interest (loss) income was relatively flat in the three- and nine-months comparison periods despite fluctuations between the periods in gains and losses related to derivatives and hedging activities and financial instruments held under the fair value option. The table below presents further information on the net effect of derivatives and hedging activities on non-interest income.

Non-interest expense decreased in the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to lower other non-interest expense, which resulted primarily from less recognition of concession fees on Consolidated Obligations held at fair value, and lower operating expenses driven by a decrease in legal fees.

Effect of Derivatives and Hedging Activities on Non-Interest Income

The following tables present the net effect of derivatives and hedging activities on non-interest income.

(In millions)

	Three Months Ended September 30, 2017				
	Advances	Mortgage Loans	Consolidated Obligation Bonds	Balance Sheet ⁽¹⁾	Total
<u>Net effect of derivatives and hedging activities</u>					
Gains (losses) on derivatives not receiving hedge accounting	\$ —	\$ 1	\$ (4)	\$ (4)	\$ (7)
Total net gains (losses) on derivatives and hedging activities	—	1	(4)	(4)	(7)
Net losses on financial instruments held under fair value option ⁽²⁾	—	—	—	—	—
Total net effect on non-interest income	\$ —	\$ 1	\$ (4)	\$ (4)	\$ (7)

(In millions)

	Three Months Ended September 30, 2016				
	Advances	Mortgage Loans	Consolidated Obligation Bonds	Balance Sheet ⁽¹⁾	Total
<u>Net effect of derivatives and hedging activities</u>					
Losses on derivatives not receiving hedge accounting	\$ —	\$ —	\$ (17)	\$ (1)	\$ (18)
Total net losses on derivatives and hedging activities	—	—	(17)	(1)	(18)
Net gains on financial instruments held under fair value option ⁽²⁾	—	—	10	—	10
Total net effect on non-interest income	\$ —	\$ —	\$ (7)	\$ (1)	\$ (8)

(In millions)

	Nine Months Ended September 30, 2017				
	Advances	Mortgage Loans	Consolidated Obligation Bonds	Balance Sheet ⁽¹⁾	Total
<u>Net effect of derivatives and hedging activities</u>					
Gains (losses) on derivatives not receiving hedge accounting	\$ —	\$ 4	\$ 8	\$ (14)	\$ (2)
Total net gains (losses) on derivatives and hedging activities	—	4	8	(14)	(2)
Net losses on financial instruments held under fair value option ⁽²⁾	—	—	(12)	—	(12)
Total net effect on non-interest income	\$ —	\$ 4	\$ (4)	\$ (14)	\$ (14)

(In millions)

	Nine Months Ended September 30, 2016				
	Advances	Mortgage Loans	Consolidated Obligation Bonds	Balance Sheet ⁽¹⁾	Total
<u>Net effect of derivatives and hedging activities</u>					
Losses on fair value hedges	\$ (3)	\$ —	\$ —	\$ —	\$ (3)
Gains (losses) on derivatives not receiving hedge accounting	—	2	14	(3)	13
Total net (losses) gains on derivatives and hedging activities	(3)	2	14	(3)	10
Net losses on financial instruments held under fair value option ⁽²⁾	—	—	(23)	—	(23)
Total net effect on non-interest income	\$ (3)	\$ 2	\$ (9)	\$ (3)	\$ (13)

(1) Balance sheet includes swaptions, which are not designated as hedging a specific financial instrument.

(2) Includes only those gains or losses on financial instruments held at fair value that have an economic derivative "assigned."

Net income volatility in derivatives and hedging activities was modest compared to the notional principal amounts and consistent with the close hedging relationships of our derivative transactions. The volatility represents both unrealized fair value gains and losses on instruments we expect to hold to maturity and the realized costs of utilizing swaptions to hedge residual risk exposure to interest rates.

Segment Information

Note 17 of the Notes to Unaudited Financial Statements presents information on our two operating business segments. We manage financial operations and market risk exposure primarily at the macro level, and within the context of the entire balance sheet, rather than exclusively at the level of individual segments. Under this approach, the market risk/return profile of each segment may not match, or possibly even have the same trends as, what would occur if we managed each segment on a stand-alone basis. The tables below summarize each segment's operating results for the periods shown.

(Dollars in millions)	Traditional Member Finance	MPP	Total
Three Months Ended September 30, 2017			
Net interest income after provision for credit losses	\$ 87	\$ 23	\$ 110
Net income	\$ 61	\$ 17	\$ 78
Average assets	\$ 93,593	\$ 10,669	\$ 104,262
Assumed average capital allocation	\$ 4,635	\$ 528	\$ 5,163
Return on average assets ⁽¹⁾	0.26%	0.64%	0.30%
Return on average equity ⁽¹⁾	5.17%	12.98%	5.97%
Three Months Ended September 30, 2016			
Net interest income after provision for credit losses	\$ 74	\$ 19	\$ 93
Net income	\$ 47	\$ 14	\$ 61
Average assets	\$ 94,943	\$ 8,679	\$ 103,622
Assumed average capital allocation	\$ 4,606	\$ 420	\$ 5,026
Return on average assets ⁽¹⁾	0.20%	0.65%	0.23%
Return on average equity ⁽¹⁾	4.04%	13.35%	4.82%
Nine Months Ended September 30, 2017			
Net interest income after provision for credit losses	\$ 249	\$ 70	\$ 319
Net income	\$ 177	\$ 53	\$ 230
Average assets	\$ 91,665	\$ 10,259	\$ 101,924
Assumed average capital allocation	\$ 4,557	\$ 510	\$ 5,067
Return on average assets ⁽¹⁾	0.26%	0.69%	0.30%
Return on average equity ⁽¹⁾	5.17%	13.93%	6.06%
Nine Months Ended September 30, 2016			
Net interest income after provision for credit losses	\$ 210	\$ 55	\$ 265
Net income	\$ 136	\$ 43	\$ 179
Average assets	\$ 98,395	\$ 8,408	\$ 106,803
Assumed average capital allocation	\$ 4,632	\$ 396	\$ 5,028
Return on average assets ⁽¹⁾	0.18%	0.68%	0.22%
Return on average equity ⁽¹⁾	3.92%	14.39%	4.75%

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

Traditional Member Finance Segment

The increase in net income in the three and nine months of 2017, compared to the same periods in 2016, was due primarily to higher spreads earned on short-term and LIBOR-indexed Advances and liquidity investments that were driven by the larger increase in rates earned on these assets relative to their associated funding. Secondly, net income increased in the 2017

periods due to lower amortization of concession fees on Consolidated Obligations and premiums on mortgage-backed securities. These positive factors were partially offset by lower spreads on mortgage-backed securities.

MPP Segment

The MPP continued to earn a substantial level of profitability compared to market interest rates, with a moderate amount of market risk and a minimal amount of credit risk. In the first nine months of 2017, the MPP averaged 10 percent of total average assets while accounting for 23 percent of earnings. Net income increased in the three and nine months of 2017 compared to the same periods in 2016 primarily due to the positive impact from growth in average MPP balances and lower amortization of concession fees on Consolidated Obligations and purchased premiums on mortgage loans. The increase in net income was partially offset by lower spreads earned on MPP and losses on derivatives and hedging activities.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT RISK MANAGEMENT

Market Risk

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

Two key measures of long-term market risk exposure are the sensitivities of the market value of equity and the duration of equity to changes in interest rates and other variables, as presented in the following tables for various instantaneous and permanent interest rate shocks (in basis points). We compiled average results using data for each month end. Given the current low level of rates, the down rate shocks are nonparallel scenarios, with short-term rates decreasing less than long-term rates such that no rate falls below zero.

Market Value of Equity

(Dollars in millions)	Down 300	Down 200	Down 100	Flat Rates	Up 100	Up 200	Up 300
<u>Average Results</u>							
<u>2017 Year-to-Date</u>							
Market Value of Equity	\$ 4,677	\$ 4,736	\$ 4,939	\$ 4,988	\$ 4,928	\$ 4,855	\$ 4,792
% Change from Flat Case	(6.2)%	(5.0)%	(1.0)%	—	(1.2)%	(2.7)%	(3.9)%
<u>2016 Full Year</u>							
Market Value of Equity	\$ 4,571	\$ 4,595	\$ 4,720	\$ 4,843	\$ 4,791	\$ 4,655	\$ 4,509
% Change from Flat Case	(5.6)%	(5.1)%	(2.5)%	—	(1.1)%	(3.9)%	(6.9)%
<u>Month-End Results</u>							
<u>September 30, 2017</u>							
Market Value of Equity	\$ 4,768	\$ 4,819	\$ 5,034	\$ 5,108	\$ 5,084	\$ 5,020	\$ 4,944
% Change from Flat Case	(6.7)%	(5.7)%	(1.4)%	—	(0.5)%	(1.7)%	(3.2)%
<u>December 31, 2016</u>							
Market Value of Equity	\$ 4,587	\$ 4,660	\$ 4,803	\$ 4,770	\$ 4,654	\$ 4,543	\$ 4,457
% Change from Flat Case	(3.8)%	(2.3)%	0.7 %	—	(2.4)%	(4.8)%	(6.6)%

Duration of Equity

(In years)	Down 300	Down 200	Down 100	Flat Rates	Up 100	Up 200	Up 300
<u>Average Results</u>							
2017 Year-to-Date	(1.7)	(4.0)	(3.9)	0.3	1.5	1.3	1.3
2016 Full Year	(2.3)	(2.8)	(3.4)	(0.8)	2.3	3.1	3.3
<u>Month-End Results</u>							
September 30, 2017	(1.4)	(4.0)	(4.2)	(0.4)	1.0	1.4	1.6
December 31, 2016	(2.0)	(3.7)	(1.7)	1.8	2.5	2.0	1.8

Consistent with our historical practice and risk appetite, during the first nine months of 2017, as in 2016, we positioned market risk exposure to changing interest rates at a moderate level and well within policy limits. The dollar amount of equity exposure for any individual rate shock can be obtained by multiplying the percentage change of the market value of equity by the amount

of total capital. The durations of equity provide an estimate of the change in market value of equity for a 1.00 percentage point further change in interest rates from the rate shock level.

Based on the totality of our risk analysis, we expect that profitability, defined as the level of ROE compared with short-term market rates, will remain competitive unless interest rates change by extremely large amounts in a short period of time. Decreases in long-term interest rates even by two percentage points would still result in profitability being well above market interest rates. Similarly, we believe that profitability would not become uncompetitive in a rising rate environment unless long-term rates were to permanently increase in a short period of time by five percentage points or more, combined with short-term rates increasing by at least six percentage points.

Market Risk Exposure of the Mortgage Assets Portfolio

The mortgage assets portfolio normally accounts for almost all market risk exposure because of prepayment volatility that we cannot completely hedge while maintaining sufficient net spreads. Sensitivities of the market value of equity allocated to the mortgage assets portfolio under interest rate shocks (in basis points) are shown below. At September 30, 2017, the average mortgage assets portfolio had an assumed capital allocation of \$1.2 billion based on the entire balance sheet's regulatory capital-to-assets ratio. Average results are compiled using data for each month-end. The market value sensitivities are one measure we use to analyze the portfolio's estimated market risk exposure.

% Change in Market Value of Equity-Mortgage Assets Portfolio

	Down 300	Down 200	Down 100	Flat Rates	Up 100	Up 200	Up 300
<u>Average Results</u>							
2017 Year-to-Date	(36.0)%	(29.0)%	(6.5)%	—	(4.3)%	(9.6)%	(13.8)%
2016 Full Year	(31.7)%	(29.4)%	(15.5)%	—	(3.1)%	(15.3)%	(29.0)%
<u>Month-End Results</u>							
September 30, 2017	(36.0)%	(30.4)%	(8.3)%	—	(2.5)%	(8.0)%	(14.4)%
December 31, 2016	(28.4)%	(18.5)%	0.7 %	—	(10.4)%	(20.3)%	(27.7)%

The risk exposure of the mortgage assets portfolio at September 30, 2017 compared to year-end 2016 was modestly lower in rising rate scenarios and modestly higher in lower rate scenarios driven in part by marginally lower interest-rates relative to the end of 2016 combined with normal changes in balance sheet composition. We believe the mortgage asset portfolio will continue to provide an acceptable risk adjusted return consistent with our risk appetite philosophy.

Capital Adequacy

Retained Earnings

We must hold sufficient capital to protect against exposure to various risks, including market, credit, and operational. We regularly conduct a variety of measurements and assessments for capital adequacy. At September 30, 2017, our capital management policy set forth a range of \$275 million to \$475 million as the minimum amount of retained earnings we believe is necessary to mitigate impairment risk from market risk exposure and to provide for dividend stability from factors that could cause earnings to be volatile. At September 30, 2017, the \$915 million of retained earnings was comprised of \$609 million unrestricted (an increase of \$35 million from year-end 2016) and \$306 million restricted (an increase of \$46 million from year-end 2016), which pursuant to the FHLBank System's Joint Capital Enhancement Agreement we are not permitted to distribute as dividends.

We believe that the current amount of retained earnings, which exceeds the policy range, is sufficient to mitigate members' impairment risk of their capital stock investment and to provide for dividend stabilization. We will continue to carry a greater amount of retained earnings than required by the policy and will continue to bolster capital adequacy over time by allocating a portion of earnings to the required restricted retained earnings account.

Market Capitalization Ratios

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

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

	September 30, 2017	December 31, 2016
Market Value of Equity to Par Value of Regulatory Capital Stock - Base Case (Flat Rates) Scenario	120%	114%
Market Value of Equity to Par Value of Regulatory Capital Stock - Down Shock ⁽¹⁾	118	115
Market Value of Equity to Par Value of Regulatory Capital Stock - Up Shock ⁽²⁾	118	108

(1) Represents a down shock of 100 basis points.

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

A base case value below 100 percent (par) could indicate that, in the remote event of an immediate liquidation scenario involving redemption of all capital stock, capital stock may be returned to stockholders at a value below par. This could be due to experiencing risks that lower the market value of capital and/or to having an insufficient amount of retained earnings. In the first nine months of 2017, the market capitalization ratios in the scenarios presented continued to be above our policy requirements. The base case ratio of 120 percent, which increased modestly at September 30, 2017 compared to the end of 2016, remains acceptable because retained earnings were 21 percent of regulatory capital stock at September 30, 2017, well above policy requirements, and because we maintained risk exposures at moderate levels.

The following table presents the market value of equity to the book value of total capital.

	September 30, 2017	December 31, 2016
Market Value of Equity to Book Value of Capital - Base Case (Flat Rates) Scenario ⁽¹⁾	99%	95%
Market Value of Equity to Book Value of Capital - Down Shock ⁽¹⁾⁽²⁾	97	96
Market Value of Equity to Book Value of Capital - Up Shock ⁽¹⁾⁽³⁾	97	91

(1) Capital includes total capital and mandatorily redeemable capital stock.

(2) Represents a down shock of 100 basis points.

(3) Represents an up shock of 200 basis points.

A base-case value below par indicates that we have realized or could realize risks (especially market risk) such that the market value of total capital owned by stockholders, which includes regulatory capital stock and retained earnings, is below par value (i.e., below 100 percent of the total book value). The base-case ratio of 99 percent at September 30, 2017 indicates that the market value of total capital is \$68 million below the par value of total capital. In a scenario in which interest rates increase 200 basis points, the market value of total capital would be \$156 million below the par value of total capital. This indicates that capital stock would still be redeemable at par value in a liquidation, but stockholders would not receive the full sum of their total equity ownership in the FHLB, which include both capital stock and retained earnings. We believe the likelihood of a liquidation scenario is extremely remote; and therefore, we accept the risk of diluting equity ownership in such a scenario.

Credit Risk

Overview

Our business entails a significant amount of inherent credit risk exposure. We believe our risk management practices, discussed below, bring the amount of residual credit risk to a minimal level. We have no loan loss reserves or impairment recorded for Credit Services, investments, and derivatives and a minimal amount of legacy credit risk exposure to the MPP.

Credit Services

Overview: We have policies and practices to manage credit risk exposure from our secured lending activities, which include Advances and Letters of Credit. The objective of our credit risk management is to equalize risk exposure across members and counterparties to a zero level of expected losses, consistent with our conservative risk management principles and desire to have virtually no residual credit risk related to member borrowings.

Collateral: We require each member to provide us a security interest in eligible collateral before it can undertake any secured borrowing. Eligible collateral includes single-family loans, multi-family loans, home equity loans and lines of credit,

commercial real estate, bond securities and farm real estate. The estimated value of pledged collateral is discounted in order to offset market, credit and liquidity risks that may affect the collateral's realizable value if it must be liquidated. Over-collateralization by one member is not applied to another member. At September 30, 2017, our policy of over-collateralization resulted in total collateral pledged of \$343.0 billion to serve total borrowing capacity of \$274.0 billion of which \$189.2 billion was unused. The collateral composition remained relatively stable compared to the end of 2016.

Borrowing Capacity/Lendable Value: We determine borrowing capacity against pledged collateral by establishing minimum levels of over-collateralization (Collateralized Maintenance Requirements or CMRs). CMRs result in a lendable value, or borrowing capacity, that is less than the amount of pledged collateral.

CMRs are determined by statistical analysis and management assumptions relating to historical price volatility, inherent credit risks, liquidation timing and costs, and the current credit and economic environment. We apply CMR results to the estimated values of pledged assets. CMRs vary among pledged assets and members based on the member institution type, the financial strength of the member institution, the form of valuation, the issuer of bond collateral or the quality of securitized assets, the marketability of the pledged assets, the payment performance of pledged loan collateral, and the quality of loan collateral as reflected in the manner in which it was underwritten and is administered. Effective July 2017, we updated CMRs resulting in relatively minor changes in borrowing capacity for most members.

Internal Credit Ratings: We perform credit underwriting of our member and nonmember borrowers and assign them an internal credit rating. The credit ratings are based on internal credit analysis and consideration of available credit ratings from independent credit rating organizations. The credit ratings are used in conjunction with other measures of credit risk in managing secured credit risk exposure.

Member Failures, Closures, and Receiverships: There were no member failures in 2017 through the date of this filing.

MPP

Overview: We believe that the residual amount of credit risk exposure to loans in the MPP is minimal, based on the same factors described in the 2016 Annual Report on Form 10-K. We believe, based on our analysis, that future credit losses will not harm capital adequacy and will not significantly affect profitability except under the most extreme and unlikely credit conditions.

Conventional Loan Portfolio Characteristics: The levels of loan-to-value ratios have improved over the last several years, consistent with the portfolio's excellent credit quality. The positive trends reflect the sustained recovery and improvement in the overall housing market. At September 30, 2017, the weighted average loan-to-value ratios for conventional loans based on origination values and estimated current values were 73 percent and 61 percent, respectively. These ratios were similar at December 31, 2016.

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

(Dollars in millions)	Conventional Loan Delinquencies	
	September 30, 2017	December 31, 2016
Early stage delinquencies - unpaid principal balance ⁽¹⁾	\$ 38	\$ 47
Serious delinquencies - unpaid principal balance ⁽²⁾	\$ 19	\$ 23
Early stage delinquency rate ⁽³⁾	0.4%	0.5%
Serious delinquency rate ⁽⁴⁾	0.2%	0.3%
National average serious delinquency rate ⁽⁵⁾	1.9%	2.5%

- (1) Includes conventional loans 30 to 89 days delinquent and not in foreclosure.
- (2) Includes conventional loans that are 90 days or more past due or where the decision of foreclosure or a similar alternative such as pursuit of deed-in-lieu has been reported.
- (3) Early stage delinquencies expressed as a percentage of the total conventional loan portfolio.
- (4) Serious delinquencies expressed as a percentage of the total conventional loan portfolio.
- (5) National average number of fixed-rate prime and subprime conventional loans that are 90 days or more past due or in the process of foreclosure is based on the most recent national delinquency data available. The September 30, 2017 rate is based on June 30, 2017 data.

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

Credit Enhancements: Conventional mortgage loans are supported against credit losses by various combinations of primary mortgage insurance (PMI), supplemental mortgage insurance (SMI) (for loans purchased before February 2011), and the Lender Risk Account (LRA). The LRA is a holdback of a portion of the initial purchase price to cover expected credit losses for a specific pool of loans. Starting after five years from the loan purchase date, we may return the holdback to Participating Financial Institutions (PFIs) if they manage credit risk to predefined acceptable levels of exposure on the loan pools they sell to us. As a result, some pools of loans may have sufficient credit enhancements to recapture all losses while other pools of loans may not. The LRA had balances of \$196 million and \$188 million at September 30, 2017 and December 31, 2016, respectively. For more information, see Note 9 of the Notes to Unaudited Financial Statements.

Credit Losses: The following table shows the effects of credit enhancements on the estimation of credit losses at the noted periods. Estimated incurred credit losses, after credit enhancements, are accounted for in the allowance for credit losses or as a charge off (i.e., a reduction to the principal of mortgage loans held for portfolio).

(In millions)	September 30, 2017	December 31, 2016
Estimated incurred credit losses, before credit enhancements	\$ (6)	\$ (9)
Estimated amounts deemed recoverable by:		
Primary mortgage insurance	1	1
Supplemental mortgage insurance	3	5
Lender Risk Account	1	2
Estimated incurred credit losses, after credit enhancements	<u>\$ (1)</u>	<u>\$ (1)</u>

The small amount of incurred losses provides further support on the aggregate health of the portfolio. Credit risk exposure depends on the actual and potential credit performance of the loans in each pool compared to the pool's equity (on individual loans) and credit enhancements, including PMI, the LRA, and SMI.

During the third quarter of 2017, two significant hurricanes impacted areas in which we have mortgage loan borrowers, including the southeastern coast of Texas and areas of Florida, Georgia and certain other southeastern states. Based on internal analysis utilizing the information currently available, we do not expect that the potential losses resulting from the hurricanes will have a material effect on our financial condition or results of operations.

In addition to the allowance for credit losses recorded, we regularly analyze potential ranges of additional lifetime credit risk exposure for the loans in the MPP. Even under adverse macroeconomic scenarios, we expect that further credit losses would not significantly decrease profitability.

Investments

Liquidity Investments: We purchase liquidity investments from counterparties that have a strong ability to repay principal and interest. Liquidity investments are either unsecured, guaranteed by the U.S. government, or secured (i.e., collateralized). For unsecured liquidity investments, we invest in the debt securities of highly rated, investment-grade institutions, have appropriate and conservative limits on dollar and maturity exposure to each institution, and have strong credit underwriting practices, including active monitoring of credit quality of our counterparties and of the environment in which they operate.

The following table presents the carrying value of liquidity investments outstanding in relation to the counterparties' lowest long-term credit ratings provided by Standard & Poor's, Moody's, and/or Fitch Advisory Services. For resale agreements, the ratings shown are based on ratings of the associated collateral.

(In millions)

	September 30, 2017		
	Long-Term Rating		
	AA	A	Total
<u>Unsecured Liquidity Investments</u>			
Federal funds sold	\$ 3,660	\$ 6,750	\$ 10,410
Certificates of deposit	550	—	550
Total unsecured liquidity investments	4,210	6,750	10,960
<u>Guaranteed/Secured Liquidity Investments</u>			
Securities purchased under agreements to resell	1,804	—	1,804
U.S. Treasury obligations	34	—	34
Total guaranteed/secured liquidity investments	1,838	—	1,838
Total liquidity investments	<u>\$ 6,048</u>	<u>\$ 6,750</u>	<u>\$ 12,798</u>
	December 31, 2016		
	Long-Term Rating		
	AA	A	Total
<u>Unsecured Liquidity Investments</u>			
Federal funds sold	\$ 1,280	\$ 2,977	\$ 4,257
Certificates of deposit	1,300	—	1,300
Total unsecured liquidity investments	2,580	2,977	5,557
<u>Guaranteed/Secured Liquidity Investments</u>			
Securities purchased under agreements to resell	5,230	—	5,230
Government-sponsored enterprises ⁽¹⁾	31	—	31
Total guaranteed/secured liquidity investments	5,261	—	5,261
Total liquidity investments	<u>\$ 7,841</u>	<u>\$ 2,977</u>	<u>\$ 10,818</u>

(1) Consists of securities that are issued and effectively guaranteed by Fannie Mae and/or Freddie Mac, which have the support of the U.S. government, although they are not obligations of the U.S. government.

During the first nine months of 2017, we purchased a portion of our total liquidity investments from counterparties for which the investments are secured with collateral (secured resale agreements). We believe these investments present virtually no credit risk exposure to us.

The following table presents credit ratings of our unsecured investment credit exposure by the domicile of the counterparty or the domicile of the counterparty's parent for U.S. branches and agency offices of foreign commercial banks.

(In millions)

Domicile of Counterparty	September 30, 2017		
	Counterparty Rating ⁽¹⁾		
	AA	A	Total
Domestic	\$ 1,065	\$ 1,030	\$ 2,095
U.S. branches and agency offices of foreign commercial banks:			
Canada	150	2,140	2,290
Sweden	1,295	500	1,795
Australia	1,200	—	1,200
Germany	500	500	1,000
Netherlands	—	940	940
Norway	—	940	940
France	—	700	700
Total U.S. branches and agency offices of foreign commercial banks	3,145	5,720	8,865
Total unsecured investment credit exposure	\$ 4,210	\$ 6,750	\$ 10,960

(1) Represents the lowest long-term credit rating provided by Standard & Poor's, Moody's, and/or Fitch Advisory Services.

The following table presents the remaining contractual maturity of our unsecured investment credit exposure by the domicile of the counterparty or the domicile of the counterparty's parent for U.S. branches and agency offices of foreign commercial banks.

(In millions)

Domicile of Counterparty	September 30, 2017			
	Overnight	Due 2 days through 30 days	Due 31 days through 90 days	Total
Domestic	\$ 2,095	\$ —	\$ —	\$ 2,095
U.S. branches and agency offices of foreign commercial banks:				
Canada	2,140	150	—	2,290
Sweden	1,695	—	100	1,795
Australia	1,000	200	—	1,200
Germany	900	—	100	1,000
Netherlands	940	—	—	940
Norway	940	—	—	940
France	700	—	—	700
Total U.S. branches and agency offices of foreign commercial banks	8,315	350	200	8,865
Total unsecured investment credit exposure	\$ 10,410	\$ 350	\$ 200	\$ 10,960

At September 30, 2017, all of the \$11.0 billion of unsecured investment exposure was to counterparties with holding companies domiciled in countries receiving either AAA or AA long-term sovereign ratings. Furthermore, we restrict a significant portion of unsecured lending to overnight maturities, which further limits risk exposure to these counterparties. By Finance Agency regulation, all counterparties exposed to non-U.S. countries are required to be domestic U.S. branches of foreign counterparties. We also limit exposure to counterparties and countries that could have significant direct or indirect exposure to European sovereign debt.

Mortgage-Backed Securities.

GSE Mortgage-Backed Securities

At September 30, 2017, \$12.1 billion of mortgage-backed securities held were GSE securities issued by Fannie Mae and Freddie Mac, which provide credit safeguards by guaranteeing either timely or ultimate payments of principal and interest. We believe that the conservatorships of Fannie Mae and Freddie Mac lower the chance that they would not be able to fulfill their credit guarantees and that the securities issued by these two GSEs are effectively government guaranteed. In addition, based on the data available to us and our purchase practices, we believe that most of the mortgage loans backing our GSE mortgage-backed securities are of high quality with acceptable credit performance.

Mortgage-Backed Securities Issued by Other Government Agencies

We also invest in mortgage-backed securities issued and guaranteed by Ginnie Mae and the NCUA. These investments totaled \$2.7 billion at September 30, 2017. We believe that the strength of the issuers' guarantees and backing by the full faith and credit of the U.S. government is sufficient to protect us against credit losses on these securities.

Derivatives

Credit Risk Exposure: We mitigate most of the credit risk exposure resulting from derivative transactions through collateralization or use of daily settled contracts. The table below presents the credit ratings for derivative positions to which we had credit risk exposure at September 30, 2017.

(In millions)

	Total Notional	Net Derivatives Fair Value Before Collateral and Variation Margin for Daily Settled Contracts	Cash Collateral Pledged to (from) Counterparties and Variation Margin for Daily Settled Contracts ⁽¹⁾	Net Credit Exposure to Counterparties
Non-member counterparties:				
<u>Asset positions with credit exposure:</u>				
Uncleared derivatives:				
AA	\$ 676	\$ 4	\$ (2)	\$ 2
A	89	—	—	—
Total uncleared derivatives	765	4	(2)	2
Cleared derivatives ⁽²⁾	4,379	34	13	47
<u>Liability positions with credit exposure:</u>				
Cleared derivatives ⁽²⁾	6,618	(58)	87	29
Total derivative positions with credit exposure to non-member counterparties	11,762	(20)	98	78
Member institutions ⁽³⁾	219	2	—	2
Total	\$ 11,981	\$ (18)	\$ 98	\$ 80

(1) Cleared derivatives include variation margin for daily settled contracts of \$56 million at September 30, 2017.

(2) Represents derivative transactions cleared with LCH.Clearnet LLC and CME Clearing, the FHLB's clearinghouses, which are not rated. LCH.Clearnet LLC's parent company, LCH Group Holdings Ltd, was rated A+ by Standard & Poor's; however, on May 31, 2017, Standard & Poor's lowered the rating to A and withdrew the rating at LCH Group Holdings Ltd.'s request. LCH Group Holdings Ltd.'s ultimate parent, London Stock Exchange Group Plc is rated A3 by Moody's and A- by Standard & Poor's. CME Clearing's parent, CME Group Inc. is rated Aa3 by Moody's and AA- by Standard & Poor's.

(3) Represents Mandatory Delivery Contracts.

Our exposure to cleared derivatives is primarily associated with our requirement to post initial margin through the clearing agent to the Derivatives Clearing Organizations. The amount of cash collateral pledged as initial margin has increased from our use of cleared derivatives. However, the use of cleared derivatives mitigates credit risk exposure because a central counterparty is substituted for individual counterparties.

Based on both the gross and net exposures, we had \$2 million of residual credit risk exposure on uncleared derivatives at September 30, 2017. Gross exposure could change if the composition of our derivatives change. However, contractual collateral provisions in these derivatives would limit net exposure to acceptable levels.

Although we cannot predict if we will realize credit risk losses from any of our derivatives counterparties, we believe that all of the counterparties will be able to continue making timely interest payments and, more generally, to continue to satisfy the terms and conditions of their derivative contracts with us. As of September 30, 2017, we had \$20 million of notional principal of interest rate swaps with one member, JPMorgan Chase Bank, N.A., which also had outstanding credit services with us. Due to the amount of market value collateralization, we had no outstanding credit exposure to this counterparty related to interest rate swaps outstanding.

Liquidity Risk

Liquidity Overview

We seek to be in a liquidity position to meet the needs of our members and to meet all current and future financial commitments. This objective is achieved by managing liquidity positions to maintain stable, reliable, and cost-effective sources of funds while taking into accounting market conditions, member demand, and the maturity profile of assets and liabilities. Our liquidity position complies with the FHLBank Act, Finance Agency regulations, and policies established by management and the Board of Directors.

The FHLBank System's primary source of funds is the sale of Consolidated Obligations in the capital markets. Our ability to obtain funds through the sale of Consolidated Obligations at acceptable interest costs depends on the financial market's perceived riskiness of the Obligations and on prevailing conditions in the capital markets, particularly the short-term capital markets. The System's favorable debt ratings, the implicit U.S. government backing of our debt, and our effective risk management practices are instrumental in ensuring stable and satisfactory access to the capital markets.

We believe our liquidity position, as well as that of the System, remained strong during the first nine months of 2017. Our overall ability to effectively fund our operations through debt issuances remained sufficient. Investor demand for System debt remained robust in the first nine months of 2017. Although we can make no assurances, we expect this to continue to be the case. We believe the possibility of a liquidity or funding crisis in the System that would impair our ability to participate, on a cost-effective basis, in issuances of debt, service outstanding debt, maintain adequate capitalization, or pay competitive dividends is remote. See the "Consolidated Obligations" section of "Analysis of Financial Condition" for further information about our funding actions in the first nine months of 2017 aimed at lowering exposure to unforeseen liquidity risks.

The System works collectively to manage and monitor the System-wide liquidity and funding risks. Liquidity risk includes the risk the System could have difficulty rolling over short-term Obligations when market conditions change, also called refinancing risk. The System has a large reliance on short-term funding; therefore, it has a sharp focus on managing liquidity risk to very low levels. As shown on the Statements of Cash Flows, in the first nine months of 2017, our portion of the System's debt issuances totaled \$377.0 billion for Discount Notes and \$16.8 billion for Bonds. Access to short-term debt markets has been reliable because investors, driven by increased liquidity preferences and risk aversion, including the effects of money market fund reform, have sought the System's short-term debt, which has led to increased utilization of debt maturing in one year or less. See the Notes to Unaudited Financial Statements for more detailed information regarding maturities of certain financial assets and liabilities which are instrumental in determining the amount of liquidity risk. In addition to contractual maturities, other assumptions regarding cash flows such as estimated prepayments, embedded call optionality, and scheduled amortization are considered when managing liquidity risks.

A primary way that we manage liquidity risk is to meet operational and contingency liquidity requirements. We satisfied the operational liquidity requirement by both meeting a contingency liquidity requirement, discussed below, and because we were able to adequately access the capital markets to issue debt. Liquidity investments, most of which were overnight, were generally in the range of \$5 billion to \$15 billion during the first nine months of 2017. In addition, Finance Agency guidance requires us to target at least 5 to 15 consecutive days of a positive amount of liquidity based on specific assumptions under two scenarios. We target holding at least three extra days of positive liquidity under each scenario, although as market conditions warrant we may hold, and often do hold, additional amounts.

Contingency Liquidity Requirement

Contingency liquidity risk is the potential inability to meet liquidity needs because our access to the capital markets to issue Consolidated Obligations is restricted or suspended for a period of time due to a market disruption, operational failure, or real or perceived credit quality problems. We continued to hold an ample amount of liquidity reserves to protect against contingency liquidity risk.

(In millions)	<u>September 30, 2017</u>	<u>December 31, 2016</u>
<u>Contingency Liquidity Requirement</u>		
Total Contingency Liquidity Reserves ⁽¹⁾	\$ 35,304	\$ 32,127
Total Requirement ⁽²⁾	(23,057)	(24,224)
Excess Contingency Liquidity Available	<u>\$ 12,247</u>	<u>\$ 7,903</u>

- (1) Includes, among others, cash, overnight Federal funds, overnight deposits, self-liquidating term Federal funds, 95 percent of the market value of available-for-sale negotiable securities, and 75 percent of the market value of certain held-to-maturity obligations, including obligations of the United States, U.S. government agency obligations and mortgage-backed securities.
- (2) Includes net liabilities maturing in the next seven business days, assets traded not yet settled, Advance commitments outstanding, Advances maturing in the next seven business days, and a three percent hypothetical increase in Advances.

Deposit Reserve Requirement

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

(In millions)	<u>September 30, 2017</u>	<u>December 31, 2016</u>
<u>Deposit Reserve Requirement</u>		
Total Eligible Deposit Reserves	\$ 78,244	\$ 72,114
Total Member Deposits	(616)	(765)
Excess Deposit Reserves	<u>\$ 77,628</u>	<u>\$ 71,349</u>

Contractual Obligations

The following table summarizes our contractual obligations at September 30, 2017. We believe that, as in the past, we will continue to have sufficient liquidity, including from access to the debt markets to issue Consolidated Obligations, to satisfy these obligations on a timely basis.

(In millions)	<u>< 1 year</u>	<u>1 < 3 years</u>	<u>3 < 5 years</u>	<u>> 5 years</u>	<u>Total</u>
<u>Contractual Obligations</u>					
Long-term debt (Bonds) - par ⁽¹⁾	\$ 20,586	\$ 13,955	\$ 8,691	\$ 6,036	\$ 49,268
Operating leases (include premises and equipment)	1	2	2	3	8
Mandatorily redeemable capital stock	20	2	9	1	32
Commitments to fund mortgage loans	361	—	—	—	361
Pension and other postretirement benefit obligations	2	5	4	26	37
Total Contractual Obligations	<u>\$ 20,970</u>	<u>\$ 13,964</u>	<u>\$ 8,706</u>	<u>\$ 6,066</u>	<u>\$ 49,706</u>

- (1) Does not include Discount Notes and contractual interest payments related to Bonds. Total is based on contractual maturities; the actual timing of payments could be affected by factors affecting redemptions.

Off-Balance Sheet Arrangements

The following table summarizes our off-balance sheet items at September 30, 2017. For more information, see Note 19 of the Notes to Unaudited Financial Statements.

(In millions)	<u>< 1 year</u>	<u>1 < 3 years</u>	<u>3 < 5 years</u>	<u>> 5 years</u>	<u>Total</u>
<u>Off-balance sheet items</u> ⁽¹⁾					
Standby Letters of Credit	\$ 16,618	\$ 83	\$ 69	\$ 26	\$ 16,796
Standby bond purchase agreements	27	45	—	—	72
Consolidated Obligations traded, not yet settled	23	—	—	—	23
Total off-balance sheet items	<u>\$ 16,668</u>	<u>\$ 128</u>	<u>\$ 69</u>	<u>\$ 26</u>	<u>\$ 16,891</u>

(1) Represents notional amount of off-balance sheet obligations.

Member Concentration Risk

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

Operational Risks

There were no material developments regarding our operational risk exposure during the first nine months of 2017.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

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

Item 4. Controls and Procedures.

DISCLOSURE CONTROLS AND PROCEDURES

As of September 30, 2017, the FHLB's management, including its principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the “Exchange Act”). Based upon that evaluation, these two officers each concluded that, as of September 30, 2017, the FHLB maintained effective disclosure controls and procedures designed to ensure that information required to be disclosed in the reports that it files under the Exchange Act is (1) accumulated and communicated to management as appropriate to allow timely decisions regarding disclosure and (2) recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

As of September 30, 2017, the FHLB's management, including its principal executive officer and principal financial officer, evaluated the FHLB's internal control over financial reporting. Based upon that evaluation, these two officers each concluded that there were no changes in the FHLB's internal control over financial reporting that occurred during the quarter ended September 30, 2017 that materially affected, or are reasonably likely to materially affect, the FHLB's internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1A. Risk Factors.

For a discussion of our risk factors, see Part I, Item 1A. "Risk Factors" in our 2016 Annual Report on Form 10-K. There have been no material changes from the risk factors in our 2016 Annual Report on Form 10-K.

Item 5. Other Information.

PricewaterhouseCoopers LLP (PwC) serves as the independent registered public accounting firm for the FHLB. Rule 201(c)(1)(ii)(A) of SEC Regulation S-X (the Loan Rule) prohibits an accounting firm, such as PwC, from having certain financial relationships with its audit clients and affiliated entities. Specifically, the Loan Rule provides, in relevant part, that an accounting firm generally would not be independent if it or a covered person in the firm receives a loan from a lender that is a "record or beneficial owner of more than ten percent of the audit client's equity securities." A covered person in the firm includes personnel on the audit engagement team, personnel in the chain of command, partners and managers who provide ten or more hours of non-audit services to the audit client, and partners in the office where the lead engagement partner practices in connection with the client.

PwC has advised the FHLB that for the period ended September 30, 2017, PwC and certain covered persons had borrowing relationships with two FHLB members (referred below as the "lenders") who own more than ten percent of the FHLB's capital stock, which under the Loan Rule, may reasonably be thought to bear on PwC's independence with respect to the FHLB. The FHLB is providing this disclosure to explain the facts and circumstances, as well as PwC's and the Audit Committee's conclusions, concerning PwC's objectivity and impartiality with respect to the audit of the FHLB.

PwC advised the Audit Committee of the Board that it believes that, in light of the facts of these borrowing relationships, its ability to exercise objective and impartial judgment on all matters encompassed within PwC's audit engagement has not been impaired and that a reasonable investor with knowledge of all relevant facts and circumstances would reach the same conclusion. PwC has advised the Audit Committee that this conclusion is based in part on the following considerations:

- the firm's borrowings are in good standing and neither lender has the right to take action against PwC, as borrower, in connection with the financings;
- the debt balances outstanding are immaterial to PwC and to each lender;
- PwC has borrowing relationships with a diverse group of lenders, therefore PwC is not dependent on any single lender or group of lenders; and
- the PwC audit engagement team has no involvement in PwC's treasury function and PwC's treasury function has no oversight or ability to influence the PwC audit engagement team.

Additionally, the Audit Committee assessed PwC's ability to perform an objective and impartial audit, including consideration of the ownership structure of the FHLB, the limited voting rights of members and the composition of the Board of Directors. In addition to the above listed considerations, the Audit Committee considered the following:

- although the lenders owned more than ten percent of the FHLB's capital stock, the lenders' voting rights are each less than ten percent;
- no individual officer or director that serves on the Board of Directors has the ability to significantly influence the FHLB based on the composition of the Board of Directors; and
- as of September 30, 2017, and as of the date of the filing of this Form 10-Q, no officer or director of either lender served on the Board of Directors of the FHLB.

Based on this evaluation, the Audit Committee has concluded that PwC's ability to exercise objective and impartial judgment on all issues encompassed within PwC's audit engagement has not been impaired.

Item 6. Exhibits.

(a) *Exhibits.*

See Index of Exhibits

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, as of the 9th day of November 2017.

FEDERAL HOME LOAN BANK OF CINCINNATI
(Registrant)

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

By: /s/ Donald R. Able
Donald R. Able
Executive Vice President - Chief Operating Officer
and Chief Financial Officer
(principal financial officer)

INDEX OF EXHIBITS

<u>Exhibit Number ⁽¹⁾</u>	<u>Description of exhibit</u>	<u>Document filed or furnished, as indicated below</u>
10.1	<u>Federal Home Loan Bank of Cincinnati Executive Change in Control Severance Plan</u>	Filed Herewith
31.1	<u>Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer</u>	Filed Herewith
31.2	<u>Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer</u>	Filed Herewith
32	<u>Section 1350 Certifications</u>	Furnished Herewith
101.INS	XBRL Instance Document	Filed Herewith
101.SCH	XBRL Taxonomy Extension Schema Document	Filed Herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed Herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Filed Herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed Herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed Herewith

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