

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-Q

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

For the quarterly period ended June 30, 2019
Commission File Number 001-14951



FEDERAL AGRICULTURAL MORTGAGE CORPORATION

(Exact name of registrant as specified in its charter)

Federally chartered instrumentality
of the United States

52-1578738

(State or other jurisdiction of
incorporation or organization)

(I.R.S. employer identification number)

1999 K Street, N.W., 4th Floor,
Washington, DC

20006

(Address of principal executive offices)

(Zip code)

(202) 872-7700

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol	Exchange on which registered
Class A voting common stock	AGM.A	New York Stock Exchange
Class C non-voting common stock	AGM	New York Stock Exchange
5.875% Non-Cumulative Preferred Stock, Series A	AGM.PRA	New York Stock Exchange
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	AGM.PRC	New York Stock Exchange
5.700% Non-Cumulative Preferred Stock, Series D	AGM.PRD	New York Stock Exchange

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

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 July 25, 2019, the registrant had outstanding 1,030,780 shares of Class A voting common stock, 500,301 shares of Class B voting common stock and 9,169,154 shares of Class C non-voting common stock.

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PART I

Item 1. Financial Statements

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(unaudited)

	As of	
	June 30, 2019	December 31, 2018
	<i>(in thousands)</i>	
Assets:		
Cash and cash equivalents	\$ 396,602	\$ 425,256
Investment securities:		
Available-for-sale, at fair value	2,922,504	2,217,852
Held-to-maturity, at amortized cost	45,032	45,032
Total Investment Securities	2,967,536	2,262,884
Farmer Mac Guaranteed Securities:		
Available-for-sale, at fair value	7,035,668	5,974,497
Held-to-maturity, at amortized cost	1,579,175	2,096,618
Total Farmer Mac Guaranteed Securities	8,614,843	8,071,115
USDA Securities:		
Trading, at fair value	9,201	9,999
Held-to-maturity, at amortized cost	2,128,378	2,166,174
Total USDA Securities	2,137,579	2,176,173
Loans:		
Loans held for investment, at amortized cost	4,760,046	4,004,968
Loans held for investment in consolidated trusts, at amortized cost	1,563,223	1,517,101
Allowance for loan losses	(7,264)	(7,017)
Total loans, net of allowance	6,316,005	5,515,052
Real estate owned, at lower of cost or fair value	1,770	128
Financial derivatives, at fair value	7,560	7,487
Interest receivable (includes \$18,811 and \$19,783, respectively, related to consolidated trusts)	184,693	180,080
Guarantee and commitment fees receivable	38,809	40,366
Deferred tax asset, net	10,543	6,369
Prepaid expenses and other assets	62,220	9,418
Total Assets	\$ 20,738,160	\$ 18,694,328
Liabilities and Equity:		
Liabilities:		
Notes payable:		
Due within one year	\$ 9,939,589	\$ 7,757,050
Due after one year	8,247,829	8,486,647
Total notes payable	18,187,418	16,243,697
Debt securities of consolidated trusts held by third parties	1,570,862	1,528,957
Financial derivatives, at fair value	27,429	19,633
Accrued interest payable (includes \$16,077 and \$17,125, respectively, related to consolidated trusts)	108,129	96,743
Guarantee and commitment obligation	37,246	38,683
Accounts payable and accrued expenses	31,454	11,891
Reserve for losses	1,880	2,167
Total Liabilities	19,964,418	17,941,771
Commitments and Contingencies (Note 6)		
Equity:		
Preferred stock:		
Series A, par value \$25 per share, 2,400,000 shares authorized, issued and outstanding	58,333	58,333
Series B, par value \$25 per share, 3,000,000 shares authorized, issued and outstanding as of December 31, 2018 (redemption value \$75,000,000)	—	73,044
Series C, par value \$25 per share, 3,000,000 shares authorized, issued and outstanding	73,382	73,382
Series D, par value \$25 per share, 4,000,000 shares authorized, issued and outstanding	96,659	—
Common stock:		
Class A Voting, \$1 par value, no maximum authorization, 1,030,780 shares outstanding	1,031	1,031
Class B Voting, \$1 par value, no maximum authorization, 500,301 shares outstanding	500	500
Class C Non-Voting, \$1 par value, no maximum authorization, 9,168,893 shares and 9,137,550 shares outstanding, respectively	9,169	9,138
Additional paid-in capital	118,942	118,822
Accumulated other comprehensive income, net of tax	(12,843)	24,956
Retained earnings	428,569	393,351
Total Equity	773,742	752,557
Total Liabilities and Equity	\$ 20,738,160	\$ 18,694,328

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
<i>(in thousands, except per share amounts)</i>				
Interest income:				
Investments and cash equivalents	\$ 20,156	\$ 12,095	\$ 38,863	\$ 23,558
Farmer Mac Guaranteed Securities and USDA Securities	85,569	74,179	170,980	136,609
Loans	59,403	49,396	110,800	95,049
Total interest income	165,128	135,670	320,643	255,216
Total interest expense	122,074	91,737	236,990	168,054
Net interest income	43,054	43,933	83,653	87,162
(Provision for)/release of loan losses	(578)	(424)	(314)	7
Net interest income after (provision for)/release of loan losses	42,476	43,509	83,339	87,169
Non-interest income:				
Guarantee and commitment fees	3,403	3,481	6,916	6,980
Gains/(losses) on financial derivatives	8,913	2,534	8,553	(1,316)
Gains on trading securities	61	11	105	27
Gains on sale of real estate owned	—	34	—	34
Other income	355	320	848	894
Non-interest income	12,732	6,380	16,422	6,619
Non-interest expense:				
Compensation and employee benefits	6,770	6,936	14,376	13,590
General and administrative	4,689	5,202	9,285	9,528
Regulatory fees	687	625	1,375	1,250
Real estate owned operating costs, net	64	—	64	16
(Release of)/provision for reserve for losses	(158)	158	(287)	179
Non-interest expense	12,052	12,921	24,813	24,563
Income before income taxes	43,156	36,968	74,948	69,225
Income tax expense	9,111	7,332	15,733	13,770
Net income attributable to Farmer Mac	34,045	29,636	59,215	55,455
Preferred stock dividends	(3,785)	(3,296)	(7,081)	(6,591)
Loss on retirement of preferred stock	(1,956)	—	(1,956)	—
Net income attributable to common stockholders	<u>\$ 28,304</u>	<u>\$ 26,340</u>	<u>\$ 50,178</u>	<u>\$ 48,864</u>
Earnings per common share:				
Basic earnings per common share	\$ 2.65	\$ 2.47	\$ 4.70	\$ 4.59
Diluted earnings per common share	\$ 2.63	\$ 2.45	\$ 4.66	\$ 4.55

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(unaudited)

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
<i>(in thousands)</i>				
Net income	\$ 34,045	\$ 29,636	\$ 59,215	\$ 55,455
Other comprehensive income before taxes:				
Net unrealized (losses)/gains on available-for-sale securities	(28,588)	996	(25,347)	22,224
Net changes in held-to-maturity securities	(4,601)	(1,546)	(6,863)	(2,856)
Net unrealized (losses)/gains on cash flow hedges	(9,972)	2,194	(15,637)	8,857
Other comprehensive (loss)/income before tax	(43,161)	1,644	(47,847)	28,225
Income tax benefit/(expense) related to other comprehensive (loss)/income	9,064	(345)	10,048	(5,927)
Other comprehensive (loss)/income net of tax	(34,097)	1,299	(37,799)	22,298
Comprehensive (loss)/income attributable to Farmer Mac	<u>\$ (52)</u>	<u>\$ 30,935</u>	<u>\$ 21,416</u>	<u>\$ 77,753</u>

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(unaudited)

	Preferred Stock		Common Stock		Additional	Accumulated		
	Shares	Amount	Shares	Amount	Paid-In	Other	Retained	Total
					Capital	Comprehensive	Earnings	Equity
	<i>(in thousands)</i>							
Balance as of December 31, 2018	8,400	\$ 204,759	10,669	\$ 10,669	\$ 118,822	\$ 24,956	\$ 393,351	\$ 752,557
Net income attributable to Farmer Mac	—	—	—	—	—	—	25,170	25,170
Other comprehensive loss, net of tax	—	—	—	—	—	(3,702)	—	(3,702)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(3,296)	(3,296)
Common stock (cash dividend of \$0.70 per share)	—	—	—	—	—	—	(7,470)	(7,470)
Issuance of Class C common stock	—	—	20	20	3	—	—	23
Stock-based compensation cost	—	—	—	—	724	—	—	724
Other stock-based award activity	—	—	—	—	(708)	—	—	(708)
Balance as of March 31, 2019	8,400	\$ 204,759	10,689	\$ 10,689	\$ 118,841	\$ 21,254	\$ 407,755	\$ 763,298
Net income attributable to Farmer Mac	—	—	—	—	—	—	34,045	34,045
Other comprehensive loss, net of tax	—	—	—	—	—	(34,097)	—	(34,097)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(3,785)	(3,785)
Common stock (cash dividend of \$0.70 per share)	—	—	—	—	—	—	(7,490)	(7,490)
Issuance of Series D preferred stock	4,000	96,659	—	—	—	—	—	96,659
Redemption of Series B preferred stock	(3,000)	(73,044)	—	—	—	—	—	(73,044)
Loss on retirement of preferred stock	—	—	—	—	—	—	(1,956)	(1,956)
Issuance of Class C common stock	—	—	11	11	3	—	—	14
Stock-based compensation cost	—	—	—	—	533	—	—	533
Other stock-based award activity	—	—	—	—	(435)	—	—	(435)
Balance as of June 30, 2019	<u>9,400</u>	<u>\$ 228,374</u>	<u>10,700</u>	<u>\$ 10,700</u>	<u>\$ 118,942</u>	<u>\$ (12,843)</u>	<u>\$ 428,569</u>	<u>\$ 773,742</u>

	Preferred Stock		Common Stock		Additional	Accumulated		
	Shares	Amount	Shares	Amount	Paid-In	Other	Retained	Total
					Capital	Comprehensive	Earnings	Equity
					(in thousands)	Income/(Loss)		
Balance as of December 31, 2017	8,400	\$ 204,759	10,619	\$ 10,619	\$ 118,979	\$ 51,085	\$ 322,704	\$ 708,146
Cumulative effect from change in hedge accounting	—	—	—	—	—	27	471	498
Balance as of January 1, 2018	8,400	\$ 204,759	10,619	\$ 10,619	\$ 118,979	\$ 51,112	\$ 323,175	\$ 708,644
Net income attributable to Farmer Mac	—	—	—	—	—	—	25,819	25,819
Other comprehensive income, net of tax	—	—	—	—	—	20,999	—	20,999
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(3,295)	(3,295)
Common stock (cash dividend of \$0.58 per share)	—	—	—	—	—	—	(6,161)	(6,161)
Issuance of Class C common stock	—	—	31	31	3	—	—	34
Stock-based compensation cost	—	—	—	—	664	—	—	664
Other stock-based award activity	—	—	—	—	(1,438)	—	—	(1,438)
Balance as of March 31, 2018	8,400	\$ 204,759	10,650	\$ 10,650	\$ 118,208	\$ 72,111	\$ 339,538	\$ 745,266
Net income attributable to Farmer Mac	—	—	—	—	—	—	29,636	29,636
Other comprehensive income, net of tax	—	—	—	—	—	1,299	—	1,299
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(3,296)	(3,296)
Common stock (cash dividend of \$0.58 per share)	—	—	—	—	—	—	(6,186)	(6,186)
Issuance of Class C common stock	—	—	17	17	4	—	—	21
Stock-based compensation cost	—	—	—	—	605	—	—	605
Other stock-based award activity	—	—	—	—	(1,133)	—	—	(1,133)
Balance as of June 30, 2018	8,400	\$ 204,759	10,667	\$ 10,667	\$ 117,684	\$ 73,410	\$ 359,692	\$ 766,212

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	For the Six Months Ended	
	June 30, 2019	June 30, 2018
	(in thousands)	
Cash flows from operating activities:		
Net income	\$ 59,215	\$ 55,455
Adjustments to reconcile net income to net cash provided by operating activities:		
Net amortization of deferred gains, premiums, and discounts on loans, investments, Farmer Mac Guaranteed Securities, and USDA Securities	(4,922)	1,536
Amortization of debt premiums, discounts and issuance costs	24,022	13,701
Net change in fair value of trading securities, hedged assets, and financial derivatives	(208,213)	26,100
Gain on sale of real estate owned	—	(34)
Total provision for losses	27	172
Excess tax benefits related to stock-based awards	259	903
Deferred income taxes	5,874	(2,457)
Stock-based compensation expense	1,257	1,269
Proceeds from repayment of loans purchased as held for sale	23,239	62,078
Net change in:		
Interest receivable	(4,578)	(879)
Guarantee and commitment fees receivable	120	8
Other assets	(9,006)	(12,877)
Accrued interest payable	11,386	13,104
Other liabilities	651	4,075
Net cash (used by)/provided by operating activities	(100,669)	162,154
Cash flows from investing activities:		
Purchases of available-for-sale investment securities	(1,217,901)	(539,667)
Purchases of Farmer Mac Guaranteed Securities and USDA Securities	(1,660,280)	(1,843,294)
Purchases of loans held for investment	(1,101,705)	(491,858)
Proceeds from repayment of available-for-sale investment securities	500,462	403,018
Proceeds from repayment of Farmer Mac Guaranteed Securities and USDA Securities	1,241,156	1,331,245
Proceeds from repayment of loans purchased as held for investment	330,387	335,808
Proceeds from sale of Farmer Mac Guaranteed Securities	166,351	196,290
Proceeds from sale of real estate owned	—	101
Net cash used by investing activities	(1,741,530)	(608,357)
Cash flows from financing activities:		
Proceeds from issuance of discount notes	28,265,587	21,036,787
Proceeds from issuance of medium-term notes	4,467,265	4,103,234
Payments to redeem discount notes	(27,730,461)	(21,157,585)
Payments to redeem medium-term notes	(3,106,538)	(3,313,236)
Payments to third parties on debt securities of consolidated trusts	(80,820)	(72,752)
Proceeds from common stock issuance	6	7
Retirement of Series B preferred stock	(75,000)	—
Proceeds from Series D preferred stock issuance, net of stock issuance costs	96,659	—
Tax payments related to share-based awards	(1,112)	(2,523)
Dividends paid on common and preferred stock	(22,041)	(18,939)
Net cash provided by financing activities	1,813,545	574,993
Net change in cash and cash equivalents	(28,654)	128,790
Cash and cash equivalents at beginning of period	425,256	302,022
Cash and cash equivalents at end of period	\$ 396,602	\$ 430,812
Non-cash activity:		
Loans acquired and securitized as Farmer Mac Guaranteed Securities	166,351	196,290
Consolidation of Farmer Mac Guaranteed Securities from off-balance sheet to loans held for investment in consolidated trusts and to debt securities of consolidated trusts held by third parties	118,004	116,983
Reclassification of defaulted loans from loans held for investment in consolidated trusts to loans held for investment	4,721	721
Maturity of investment security - not yet settled	(35,075)	—
Purchases of securities - traded, not yet settled	10,000	48,600

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The interim unaudited consolidated financial statements of the Federal Agricultural Mortgage Corporation ("Farmer Mac") and subsidiaries have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). These interim unaudited consolidated financial statements reflect all normal and recurring adjustments that are, in the opinion of management, necessary to present a fair statement of the financial position and the results of operations and cash flows of Farmer Mac and subsidiaries for the interim periods presented. Certain information and footnote disclosures normally included in the annual consolidated financial statements have been omitted as permitted by SEC rules and regulations. The December 31, 2018 consolidated balance sheet presented in this report has been derived from Farmer Mac's audited 2018 consolidated financial statements. Management believes that the disclosures are adequate to present fairly the consolidated financial statements as of the dates and for the periods presented. These interim unaudited consolidated financial statements should be read in conjunction with the 2018 consolidated financial statements of Farmer Mac and subsidiaries included in Farmer Mac's Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on February 21, 2019. Results for interim periods are not necessarily indicative of those that may be expected for the fiscal year. Presented below are Farmer Mac's significant accounting policies that contain updated information for the three and six months ended June 30, 2019.

Principles of Consolidation

The consolidated financial statements include the accounts of Farmer Mac and its two subsidiaries during the year: (1) Farmer Mac Mortgage Securities Corporation ("FMMSC"), whose principal activities are to facilitate the purchase and issuance of Farmer Mac Guaranteed Securities; and (2) Farmer Mac II LLC, whose principal activity is the operation of substantially all of the business related to the USDA Guarantees line of business – primarily the acquisition of USDA Securities. The consolidated financial statements also include the accounts of Variable Interest Entities ("VIEs") in which Farmer Mac determined itself to be the primary beneficiary.

The following tables present, by line of business, details about the consolidation of VIEs:

Table 1.1

Consolidation of Variable Interest Entities							
As of June 30, 2019							
	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Total	
(in thousands)							
On-Balance Sheet:							
Consolidated VIEs:							
Loans held for investment in consolidated trusts, at amortized cost	\$ 1,563,223	\$ —	\$ —	\$ —	\$ —	\$ 1,563,223	
Debt securities of consolidated trusts held by third parties ⁽¹⁾	1,570,862	—	—	—	—	1,570,862	
Unconsolidated VIEs:							
Farmer Mac Guaranteed Securities:							
Carrying value ⁽²⁾	—	33,778	—	—	—	33,778	
Maximum exposure to loss ⁽³⁾	—	33,583	—	—	—	33,583	
Investment securities:							
Carrying value ⁽⁴⁾	—	—	—	—	1,115,618	1,115,618	
Maximum exposure to loss ^{(3) (4)}	—	—	—	—	1,117,506	1,117,506	
Off-Balance Sheet:							
Unconsolidated VIEs:							
Farmer Mac Guaranteed Securities:							
Maximum exposure to loss ^{(3) (5)}	121,064	398,710	—	—	—	519,774	

⁽¹⁾ Includes borrower remittances of \$7.6 million. The borrower remittances had not been passed through to third party investors as of June 30, 2019.

⁽²⁾ Includes \$0.2 million of unamortized premiums and discounts and fair value adjustments related to the USDA Guarantees line of business.

⁽³⁾ Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.

⁽⁴⁾ Includes auction-rate certificates, asset-backed securities, and government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities.

⁽⁵⁾ The amount under the Farm & Ranch line of business relates to unconsolidated trusts where Farmer Mac determined it was not the primary beneficiary due to shared power with an unrelated party.

⁽¹⁾ Includes borrower remittances of \$7.6 million. The borrower remittances had not been passed through to third party investors as of June 30, 2019.

⁽²⁾ Includes \$0.2 million of unamortized premiums and discounts and fair value adjustments related to the USDA Guarantees line of business.

⁽³⁾ Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.

⁽⁴⁾ Includes auction-rate certificates, asset-backed securities, and government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities.

⁽⁵⁾ The amount under the Farm & Ranch line of business relates to unconsolidated trusts where Farmer Mac determined it was not the primary beneficiary due to shared power with an unrelated party.

Consolidation of Variable Interest Entities

As of December 31, 2018

	As of December 31, 2018					
	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Total
	(in thousands)					
On-Balance Sheet:						
Consolidated VIEs:						
Loans held for investment in consolidated trusts, at amortized cost	\$ 1,517,101	\$ —	\$ —	\$ —	\$ —	\$ 1,517,101
Debt securities of consolidated trusts held by third parties ⁽¹⁾	1,528,957	—	—	—	—	1,528,957
Unconsolidated VIEs:						
Farmer Mac Guaranteed Securities:						
Carrying value ⁽²⁾	—	27,627	—	—	—	27,627
Maximum exposure to loss ⁽³⁾	—	27,383	—	—	—	27,383
Investment securities:						
Carrying value ⁽⁴⁾	—	—	—	—	1,000,942	1,000,942
Maximum exposure to loss ^{(3) (4)}	—	—	—	—	1,003,968	1,003,968
Off-Balance Sheet:						
Unconsolidated VIEs:						
Farmer Mac Guaranteed Securities:						
Maximum exposure to loss ^{(3) (5)}	135,862	367,684	—	—	—	503,546

⁽¹⁾ Includes borrower remittances of \$11.9 million. The borrower remittances had not been passed through to third party investors as of December 31, 2018.

⁽²⁾ Includes \$0.2 million of unamortized premiums and discounts and fair value adjustments related to the USDA Guarantees line of business.

⁽³⁾ Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.

⁽⁴⁾ Includes auction-rate certificates, asset-backed securities, and government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities.

⁽⁵⁾ The amount under the Farm & Ranch line of business relates to unconsolidated trusts where Farmer Mac determined it was not the primary beneficiary due to shared power with an unrelated party.

(a) Earnings Per Common Share

Basic earnings per common share ("EPS") is based on the daily weighted-average number of shares of common stock outstanding. Diluted earnings per common share is based on the daily weighted-average number of shares of common stock outstanding adjusted to include all potentially dilutive stock appreciation rights ("SARs") and unvested restricted stock awards. The following schedule reconciles basic and diluted EPS for the three and six months ended June 30, 2019 and 2018:

Table 1.2

	For the Three Months Ended					
	June 30, 2019			June 30, 2018		
	Net Income	Weighted- Average Shares	\$ per Share	Net Income	Weighted- Average Shares	\$ per Share
	<i>(in thousands, except per share amounts)</i>					
Basic EPS						
Net income attributable to common stockholders	\$ 28,304	10,698	\$ 2.65	\$ 26,340	10,658	\$ 2.47
Effect of dilutive securities ⁽¹⁾						
SARs and restricted stock	—	72	(0.02)	—	84	(0.02)
Diluted EPS	\$ 28,304	10,770	\$ 2.63	\$ 26,340	10,742	\$ 2.45

⁽¹⁾ For the three months ended June 30, 2019 and 2018, SARs and restricted stock of 62,660 and 0, respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because they were anti-dilutive. For the three months ended June 30, 2019 and 2018, contingent shares of unvested restricted stock of 12,284 and 13,138, respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because performance conditions had not yet been met.

	For the Six Months Ended					
	June 30, 2019			June 30, 2018		
	Net Income	Weighted- Average Shares	\$ per Share	Net Income	Weighted- Average Shares	\$ per Share
	(in thousands, except per share amounts)					
Basic EPS						
Net income attributable to common stockholders	\$ 50,178	10,684	\$ 4.70	\$ 48,864	10,640	\$ 4.59
Effect of dilutive securities ⁽¹⁾						
SARs and restricted stock	—	90	(0.04)	—	102	(0.04)
Diluted EPS	\$ 50,178	10,774	\$ 4.66	\$ 48,864	10,742	\$ 4.55

⁽¹⁾ For the six months ended June 30, 2019 and 2018, SARs and restricted stock of 59,818 and 25,062, respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because they were anti-dilutive. For the six months ended June 30, 2019 and 2018, contingent shares of unvested restricted stock of 12,284 and 13,138, respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because performance conditions had not yet been met.

(b) Comprehensive Income

Comprehensive income represents all changes in stockholders' equity except those resulting from investments by or distributions to stockholders, and is comprised of net income and unrealized gains and losses on available-for-sale securities, certain held-to-maturity securities transferred from the available-for-sale classification, and cash flow hedges, net of related taxes.

The following table presents the changes in accumulated other comprehensive income ("AOCI"), net of tax, by component for the three and six months ended June 30, 2019 and 2018:

Table 1.3

	As of June 30, 2019				As of June 30, 2018			
	Available- for-Sale Securities	Held-to- Maturity Securities	Cash Flow Hedges	Total	Available- for-Sale Securities	Held-to- Maturity Securities	Cash Flow Hedges	Total
	(in thousands)							
For the Three Months Ended:								
Beginning Balance	\$ (22,800)	\$ 41,656	\$ 2,398	\$ 21,254	\$ 15,094	\$ 47,201	\$ 9,816	\$ 72,111
Other comprehensive (loss)/income before reclassifications	(21,711)	—	(7,512)	(29,223)	2,209	—	1,778	3,987
Amounts reclassified from AOCI	(873)	(3,635)	(366)	(4,874)	(1,421)	(1,222)	(45)	(2,688)
Net comprehensive (loss)/income	(22,584)	(3,635)	(7,878)	(34,097)	788	(1,222)	1,733	1,299
Ending Balance	<u>\$ (45,384)</u>	<u>\$ 38,021</u>	<u>\$ (5,480)</u>	<u>\$ (12,843)</u>	<u>\$ 15,882</u>	<u>\$ 45,979</u>	<u>\$ 11,549</u>	<u>\$ 73,410</u>
For the Six Months Ended:								
Beginning Balance	\$ (25,360)	\$ 43,443	\$ 6,873	\$ 24,956	\$ (1,676)	\$ 48,236	\$ 4,525	\$ 51,085
Cumulative effect from change in hedge accounting	—	—	—	—	—	—	27	27
Adjusted Beginning Balance	(25,360)	43,443	6,873	24,956	(1,676)	48,236	4,552	51,112
Other comprehensive (loss)/income before reclassifications	(18,393)	—	(11,608)	(30,001)	20,396	—	6,831	27,227
Amounts reclassified from AOCI	(1,631)	(5,422)	(745)	(7,798)	(2,838)	(2,257)	166	(4,929)
Net comprehensive (loss)/income	(20,024)	(5,422)	(12,353)	(37,799)	17,558	(2,257)	6,997	22,298
Ending Balance	<u>\$ (45,384)</u>	<u>\$ 38,021</u>	<u>\$ (5,480)</u>	<u>\$ (12,843)</u>	<u>\$ 15,882</u>	<u>\$ 45,979</u>	<u>\$ 11,549</u>	<u>\$ 73,410</u>

The following table presents other comprehensive income activity, the impact on net income of amounts reclassified from each component of AOCI, and the related tax impact for the three and six months ended June 30, 2019 and 2018:

Table 1.4

	For the Three Months Ended					
	June 30, 2019			June 30, 2018		
	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax
	<i>(in thousands)</i>					
Other comprehensive income:						
Available-for-sale-securities:						
Unrealized holding (losses)/gains on available-for-sale-securities	\$ (27,482)	\$ (5,771)	\$ (21,711)	\$ 2,795	\$ 586	\$ 2,209
Less reclassification adjustments included in:						
Net interest income ⁽¹⁾	(956)	(201)	(755)	(1,791)	(376)	(1,415)
Other income ⁽²⁾	(150)	(32)	(118)	(8)	(2)	(6)
Total	\$ (28,588)	\$ (6,004)	\$ (22,584)	\$ 996	\$ 208	\$ 788
Held-to-maturity securities:						
Less reclassification adjustments included in:						
Net interest income ⁽³⁾	(4,601)	(966)	(3,635)	(1,546)	(324)	(1,222)
Total	\$ (4,601)	\$ (966)	\$ (3,635)	\$ (1,546)	\$ (324)	\$ (1,222)
Cash flow hedges						
Unrealized (losses)/gains on cash flow hedges	\$ (9,510)	\$ (1,998)	(7,512)	\$ 2,251	\$ 473	1,778
Less reclassification adjustments included in:						
Net interest income ⁽⁴⁾	(462)	(96)	(366)	(57)	(12)	(45)
Total	\$ (9,972)	\$ (2,094)	\$ (7,878)	\$ 2,194	\$ 461	\$ 1,733
Other comprehensive (loss)/income	\$ (43,161)	\$ (9,064)	\$ (34,097)	\$ 1,644	\$ 345	\$ 1,299

⁽¹⁾ Relates to the amortization of unrealized gains on hedged items prior to the application of fair value hedge accounting.

⁽²⁾ Represents amortization of deferred gains related to certain available-for-sale USDA Securities and Farmer Mac Guaranteed USDA Securities.

⁽³⁾ Relates to the amortization of unrealized gains or losses prior to the reclassification of these securities from available-for-sale to held-to-maturity. The amortization of unrealized gains or losses reported in AOCI for held-to-maturity securities will be offset by the amortization of the premium or discount created from the transfer into held-to-maturity securities, which occurred at fair value. These unrealized gains or losses will be recorded over the remaining life of the security with no impact on future net income.

⁽⁴⁾ Relates to the recognition of unrealized gains and losses on cash flow hedges recorded in AOCI.

	For the Six Months Ended					
	June 30, 2019			June 30, 2018		
	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax
	<i>(in thousands)</i>					
Other comprehensive income:						
Available-for-sale-securities:						
Unrealized holding (losses)/gains on available-for-sale-securities	\$ (23,282)	\$ (4,889)	\$ (18,393)	\$ 25,817	\$ 5,421	\$ 20,396
Less reclassification adjustments included in:						
Net interest income ⁽¹⁾	(1,909)	(401)	(1,508)	(3,578)	(752)	(2,826)
Other income ⁽²⁾	(156)	(33)	(123)	(15)	(3)	(12)
Total	\$ (25,347)	\$ (5,323)	\$ (20,024)	\$ 22,224	\$ 4,666	\$ 17,558
Held-to-maturity securities:						
Less reclassification adjustments included in:						
Net interest income ⁽³⁾	(6,863)	(1,441)	(5,422)	(2,856)	(599)	(2,257)
Total	\$ (6,863)	\$ (1,441)	\$ (5,422)	\$ (2,856)	\$ (599)	\$ (2,257)
Cash flow hedges						
Unrealized (losses)/gains on cash flow hedges	\$ (14,695)	\$ (3,087)	(11,608)	\$ 8,647	\$ 1,816	6,831
Less reclassification adjustments included in:						
Net interest income ⁽⁴⁾	(942)	(197)	(745)	210	44	166
Total	\$ (15,637)	\$ (3,284)	\$ (12,353)	\$ 8,857	\$ 1,860	\$ 6,997
Other comprehensive (loss)/income	\$ (47,847)	\$ (10,048)	\$ (37,799)	\$ 28,225	\$ 5,927	\$ 22,298

⁽¹⁾ Relates to the amortization of unrealized gains on hedged items prior to the application of fair value hedge accounting.

⁽²⁾ Represents amortization of deferred gains related to certain available-for-sale USDA Securities and Farmer Mac Guaranteed USDA Securities.

- (3) Relates to the amortization of unrealized gains or losses prior to the reclassification of these securities from available-for-sale to held-to-maturity. The amortization of unrealized gains or losses reported in AOCI for held-to-maturity securities will be offset by the amortization of the premium or discount created from the transfer into held-to-maturity securities, which occurred at fair value. These unrealized gains or losses will be recorded over the remaining life of the security with no impact on future net income.
- (4) Relates to the recognition of unrealized gains and losses on cash flow hedges recorded in AOCI.

(c) New Accounting Standards

Recently Adopted Accounting Guidance

Standard	Description	Date of Adoption	Effect on Consolidated Financial Statements
ASU 2016-02 , Leases (Topic 842)	This Update provides new guidance intended to improve financial reporting about leasing transactions. This Update requires organizations that lease assets to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases. It also requires new disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases.	January 1, 2019	The adoption of this Update did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows.

Recently Issued Accounting Guidance, Not Yet Adopted Within Our Consolidated Financial Statements

Standard	Description	Date of Planned Adoption	Effect on Consolidated Financial Statements
ASU 2016-13 , Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments	This Update will require entities to measure all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts, as well as require entities to use forward-looking information to form their credit loss estimates.	January 1, 2020	Farmer Mac is currently developing its accounting policy, planning for changes to its loss estimation methodologies, and evaluating the impact that the new guidance will have on its consolidated financial statements. The impact will primarily result from the new requirements to recognize all expected losses rather than just incurred losses as of the reporting date.
ASU 2017-08 , Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities	The amendments in this Update shorten the amortization period for certain callable debt securities held at a premium by requiring the premium to be amortized to the earliest call date. There is no required accounting change for securities held at a discount in this ASU.	January 1, 2020	Farmer Mac does not expect that adoption of the new guidance will have a material effect on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2018-13 , Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement	The amendments in this Update modify the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurements, including the consideration of costs and benefits. Certain disclosure requirements were either removed, modified, or added.	January 1, 2020	Farmer Mac does not expect that adoption of the new guidance will have a material effect on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2018-15 , Intangibles - Goodwill and Other Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract	The amendments in this Update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license).	January 1, 2020	Farmer Mac does not expect that adoption of the new guidance will have a material effect on Farmer Mac's financial position, results of operations, or cash flows.

(d) Reclassifications

Certain reclassifications of prior period information were made to conform to the current period presentation.

2. INVESTMENT SECURITIES

The following tables set forth information about Farmer Mac's investment securities as of June 30, 2019 and December 31, 2018:

Table 2.1

As of June 30, 2019						
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
<i>(in thousands)</i>						
Available-for-sale:						
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,700	\$ —	\$ 19,700	\$ —	\$ (492)	\$ 19,208
Floating rate asset-backed securities	26,118	(123)	25,995	—	(193)	25,802
Floating rate Government/GSE guaranteed mortgage-backed securities	1,601,067	1,354	1,602,421	4,168	(3,219)	1,603,370
Fixed rate GSE guaranteed mortgage-backed securities	335	—	335	23	—	358
Fixed rate U.S. Treasuries	1,277,187	(5,479)	1,271,708	2,067	(9)	1,273,766
Total available-for-sale	<u>2,924,407</u>	<u>(4,248)</u>	<u>2,920,159</u>	<u>6,258</u>	<u>(3,913)</u>	<u>2,922,504</u>
Held-to-maturity:						
Fixed rate Government/GSE guaranteed mortgage-backed securities ⁽¹⁾	45,032	—	45,032	729	—	45,761
Total investment securities	<u>\$ 2,969,439</u>	<u>\$ (4,248)</u>	<u>\$ 2,965,191</u>	<u>\$ 6,987</u>	<u>\$ (3,913)</u>	<u>\$ 2,968,265</u>

⁽¹⁾ The held-to-maturity investment securities had a weighted average yield of 3.8% as of June 30, 2019.

As of December 31, 2018						
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
<i>(in thousands)</i>						
Available-for-sale:						
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,700	\$ —	\$ 19,700	\$ —	\$ (985)	\$ 18,715
Floating rate asset-backed securities	28,940	(136)	28,804	2	(128)	28,678
Floating rate Government/GSE guaranteed mortgage-backed securities	1,379,472	1,528	1,381,000	721	(4,267)	1,377,454
Fixed rate GSE guaranteed mortgage-backed securities	384	1	385	18	—	403
Fixed rate U.S. Treasuries	797,913	(4,882)	793,031	119	(548)	792,602
Total available-for-sale	<u>2,226,409</u>	<u>(3,489)</u>	<u>2,222,920</u>	<u>860</u>	<u>(5,928)</u>	<u>2,217,852</u>
Held-to-maturity:						
Fixed rate Government/GSE guaranteed mortgage-backed securities ⁽¹⁾	45,032	—	45,032	562	—	45,594
Total investment securities	<u>\$ 2,271,441</u>	<u>\$ (3,489)</u>	<u>\$ 2,267,952</u>	<u>\$ 1,422</u>	<u>\$ (5,928)</u>	<u>\$ 2,263,446</u>

⁽¹⁾ The held-to-maturity investment securities had a weighted average yield of 3.5% as of December 31, 2018.

Farmer Mac did not sell any securities from its available-for-sale investment portfolio during the three and six months ended June 30, 2019 and 2018.

As of June 30, 2019 and December 31, 2018, unrealized losses on available-for-sale investment securities were as follows:

Table 2.2

	As of June 30, 2019			
	Available-for-Sale Securities			
	Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
	<i>(dollars in thousands)</i>			
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,208	\$ (492)
Floating rate asset-backed securities	8,978	(65)	16,824	(128)
Floating rate Government/GSE guaranteed mortgage-backed securities	376,791	(1,270)	281,180	(1,949)
Fixed rate U.S. Treasuries	79,700	(9)	—	—
Total	<u>\$ 465,469</u>	<u>\$ (1,344)</u>	<u>\$ 317,212</u>	<u>\$ (2,569)</u>
Number of securities in loss position	37		46	

	As of December 31, 2018			
	Available-for-Sale Securities			
	Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
	<i>(dollars in thousands)</i>			
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 18,715	\$ (985)
Floating rate asset-backed securities	6,456	(38)	19,058	(90)
Floating rate Government/GSE guaranteed mortgage-backed securities	927,416	(2,907)	196,416	(1,360)
Fixed rate U.S. Treasuries	499,581	(336)	81,597	(212)
Total	<u>\$ 1,433,453</u>	<u>\$ (3,281)</u>	<u>\$ 315,786</u>	<u>\$ (2,647)</u>
Number of securities in loss position	72		48	

The unrealized losses presented above are principally due to a general widening of market spreads and an increase in the levels of interest rates from the dates of acquisition to June 30, 2019 and December 31, 2018, as applicable. The resulting decrease in fair values reflects an increase in the perceived risk by the financial markets related to those securities. As of June 30, 2019, all of the investment securities in an unrealized loss position either were backed by the full faith and credit of the U.S. government or had credit ratings of at least "AA+," except one floating rate asset-backed security with a book value of \$1.7 million and a fair value of \$1.7 million that had a rating of "B." As of December 31, 2018, all of the investment securities in an unrealized loss position either were backed by the full faith and credit of the U.S. government or had credit ratings of at least "AA+."

Securities in unrealized loss positions for 12 months or longer have a fair value as of June 30, 2019 that is, on average, approximately 99.2% of their amortized cost basis. Farmer Mac believes that all of these unrealized losses are recoverable within a reasonable period of time by way of maturity or changes in credit spreads. Accordingly, Farmer Mac has concluded that none of the unrealized losses on these available-for-sale investment securities are other-than-temporary impairment as of June 30, 2019 and

December 31, 2018. Farmer Mac does not intend to sell these securities, and it is not "more likely than not" that Farmer Mac will be required to sell the securities before recovery of the amortized cost basis.

The amortized cost, fair value, and weighted-average yield of available-for-sale investment securities by remaining contractual maturity as of June 30, 2019 are set forth below. Asset-backed and mortgage-backed securities are included based on their final maturities, although the actual maturities may differ due to prepayments of the underlying assets.

Table 2.3

	As of June 30, 2019		
	Available-for-Sale Securities		
	Amortized Cost	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 1,265,454	\$ 1,267,431	1.41%
Due after one year through five years	212,838	212,891	2.89%
Due after five years through ten years	761,882	760,584	2.84%
Due after ten years	679,985	681,598	3.01%
Total	<u>\$ 2,920,159</u>	<u>\$ 2,922,504</u>	2.26%

3. FARMER MAC GUARANTEED SECURITIES AND USDA SECURITIES

The following tables set forth information about on-balance sheet Farmer Mac Guaranteed Securities and USDA Securities as of June 30, 2019 and December 31, 2018:

Table 3.1

	As of June 30, 2019					
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)					
Held-to-maturity:						
AgVantage	\$ 1,545,629	\$ (232)	\$ 1,545,397	\$ 14,003	\$ (1,593)	\$ 1,557,807
Farmer Mac Guaranteed USDA Securities	33,583	195	33,778	624	—	34,402
Total Farmer Mac Guaranteed Securities	1,579,212	(37)	1,579,175	14,627	(1,593)	1,592,209
USDA Securities	2,080,284	48,094	2,128,378	6,211	(1,924)	2,132,665
Total held-to-maturity	<u>\$ 3,659,496</u>	<u>\$ 48,057</u>	<u>\$ 3,707,553</u>	<u>\$ 20,838</u>	<u>\$ (3,517)</u>	<u>\$ 3,724,874</u>
Available-for-sale:						
AgVantage	<u>\$ 6,923,464</u>	<u>\$ (149)</u>	<u>\$ 6,923,315</u>	<u>\$ 143,685</u>	<u>\$ (31,332)</u>	<u>\$ 7,035,668</u>
Trading:						
USDA Securities ⁽¹⁾	\$ 8,818	\$ 570	\$ 9,388	\$ 15	\$ (202)	\$ 9,201

⁽¹⁾ The trading USDA securities had a weighted average yield of 5.23% as of June 30, 2019.

As of December 31, 2018						
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
<i>(in thousands)</i>						
Held-to-maturity:						
AgVantage	\$ 2,069,185	\$ (194)	\$ 2,068,991	\$ 2,637	\$ (11,948)	\$ 2,059,680
Farmer Mac Guaranteed USDA Securities	27,383	244	27,627	98	—	27,725
Total Farmer Mac Guaranteed Securities	2,096,568	50	2,096,618	2,735	(11,948)	2,087,405
USDA Securities	2,110,963	55,211	2,166,174	—	(62,227)	2,103,947
Total held-to-maturity	<u>\$ 4,207,531</u>	<u>\$ 55,261</u>	<u>\$ 4,262,792</u>	<u>\$ 2,735</u>	<u>\$ (74,175)</u>	<u>\$ 4,191,352</u>
Available-for-sale:						
AgVantage	<u>\$ 6,003,733</u>	<u>\$ (204)</u>	<u>\$ 6,003,529</u>	<u>\$ 22,335</u>	<u>\$ (51,367)</u>	<u>\$ 5,974,497</u>
Trading:						
USDA Securities ⁽¹⁾	<u>\$ 9,591</u>	<u>\$ 701</u>	<u>\$ 10,292</u>	<u>\$ 20</u>	<u>\$ (313)</u>	<u>\$ 9,999</u>

⁽¹⁾ The trading USDA securities had a weighted average yield of 5.21% as of December 31, 2018.

As of June 30, 2019 and December 31, 2018, unrealized losses on held-to-maturity and available-for-sale on-balance sheet Farmer Mac Guaranteed Securities and USDA Securities were as follows:

Table 3.2

As of June 30, 2019				
Held-to-Maturity and Available-for-Sale Securities				
Unrealized loss position for less than 12 months			Unrealized loss position for more than 12 months	
Fair Value	Unrealized Loss		Fair Value	Unrealized Loss
<i>(in thousands)</i>				
Held-to-maturity:				
AgVantage	\$ —	\$ —	\$ 480,032	\$ (1,593)
USDA Securities	—	—	285,968	(1,924)
Total held-to-maturity	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 766,000</u>	<u>\$ (3,517)</u>
Available-for-sale:				
AgVantage	<u>\$ 921,296</u>	<u>\$ (6,351)</u>	<u>\$ 1,378,063</u>	<u>\$ (24,981)</u>

As of December 31, 2018				
Held-to-Maturity and Available-for-Sale Securities				
Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months		
Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	
<i>(in thousands)</i>				
Held-to-maturity:				
AgVantage	\$ 669,610	\$ (1,760)	\$ 976,318	\$ (10,188)
USDA Securities	38,203	(696)	2,065,743	(61,531)
Total held-to-maturity	<u>\$ 707,813</u>	<u>\$ (2,456)</u>	<u>\$ 3,042,061</u>	<u>\$ (71,719)</u>
Available-for-sale:				
AgVantage	<u>\$ 1,480,423</u>	<u>\$ (9,364)</u>	<u>\$ 1,599,679</u>	<u>\$ (42,003)</u>

The unrealized losses presented above are principally due to higher interest rates from the date of acquisition to June 30, 2019 and December 31, 2018, as applicable. The unrealized losses on the held-to-maturity USDA Securities as of both June 30, 2019 and December 31, 2018 reflect their increased cost basis resulting from their transfer to held-to-maturity as of October 1, 2016.

The credit exposure related to Farmer Mac's USDA Guarantees line of business is covered by the full faith and credit guarantee of the United States.

The unrealized losses from AgVantage securities were on 28 and 38 available-for-sale securities as of June 30, 2019 and December 31, 2018, respectively. There were 11 and 43 held-to-maturity AgVantage securities with an unrealized loss as of June 30, 2019 and December 31, 2018, respectively. As of June 30, 2019, 16 available-for-sale AgVantage securities had been in a loss position for more than 12 months. As of December 31, 2018, 21 available-for-sale AgVantage securities had been in a loss position for more than 12 months. Farmer Mac has concluded that none of the unrealized losses on its held-to-maturity Farmer Mac Guaranteed Securities and USDA Securities and available-for-sale Farmer Mac Guaranteed Securities are other-than-temporarily impaired as of either June 30, 2019 or December 31, 2018. Farmer Mac does not intend to sell these securities, and it is not "more likely than not" that Farmer Mac will be required to sell the securities before recovery of the amortized cost basis.

During the three and six months ended June 30, 2019 and 2018, Farmer Mac realized no gains or losses from the sale of Farmer Mac Guaranteed Securities or USDA Securities.

The amortized cost, fair value, and weighted-average yield of available-for-sale and held-to-maturity Farmer Mac Guaranteed Securities and USDA Securities by remaining contractual maturity as of June 30, 2019 are set forth below. The balances presented are based on their final maturities, although the actual maturities may differ due to prepayments of the underlying assets.

Table 3.3

As of June 30, 2019			
Available-for-Sale Securities			
	Amortized Cost	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 586,896	\$ 586,944	2.92%
Due after one year through five years	3,432,197	3,466,313	3.09%
Due after five years through ten years	1,347,781	1,383,218	3.26%
Due after ten years	1,556,441	1,599,193	3.55%
Total	<u>\$ 6,923,315</u>	<u>\$ 7,035,668</u>	3.21%

As of June 30, 2019			
Held-to-Maturity Securities			
	Amortized Cost	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 539,516	\$ 538,274	2.24%
Due after one year through five years	1,094,543	1,108,105	3.32%
Due after five years through ten years	203,660	203,644	3.48%
Due after ten years	1,869,834	1,874,851	3.63%
Total	<u>\$ 3,707,553</u>	<u>\$ 3,724,874</u>	3.33%

4. FINANCIAL DERIVATIVES

Farmer Mac enters into financial derivative transactions principally to protect against risk from the effects of market price, or interest rate movements, on the value of certain assets, future cash flows, or debt issuance, and not for trading or speculative purposes. For more information about Farmer Mac's financial derivatives, see Note 6 in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

The following tables summarize information related to Farmer Mac's financial derivatives on a gross basis without giving consideration to master netting arrangements as of June 30, 2019 and December 31, 2018:

Table 4.1

	As of June 30, 2019						
	Notional Amount	Fair Value		Weighted- Average Pay Rate	Weighted- Average Receive Rate	Weighted- Average Forward Price	Weighted- Average Remaining Term (in years)
		Asset	(Liability)				
	(dollars in thousands)						
Fair value hedges:							
Interest rate swaps:							
Pay fixed non-callable	\$ 4,708,809	\$ 3,481	\$ (5,531)	2.52%	2.52%		11.04
Receive fixed non-callable	1,822,200	518	(5,017)	2.47%	2.02%		1.41
Receive fixed callable	300,000	1,250	—	2.41%	2.76%		2.19
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	373,000	887	(1,100)	2.40%	2.81%		5.62
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	319,252	—	(15,469)	3.69%	2.57%		5.83
Receive fixed non-callable	2,758,595	—	—	2.43%	2.38%		1.06
Receive fixed callable	330,000	294	—	2.39%	2.48%		0.83
Basis swaps	2,545,500	1,132	(162)	2.27%	2.35%		1.07
Treasury futures	29,100		(188)			127.32	
Credit valuation adjustment		(2)	38				
Total financial derivatives	<u>\$ 13,186,456</u>	<u>\$ 7,560</u>	<u>\$ (27,429)</u>				
Collateral (held)/pledged		(4,425)	100,830				
Net amount		\$ 3,135	\$ 73,401				

As of December 31, 2018

	Notional Amount	Fair Value		Weighted- Average Pay Rate	Weighted- Average Receive Rate	Weighted- Average Forward Price	Weighted- Average Remaining Term (in years)
		Asset	(Liability)				
(dollars in thousands)							
Fair value hedges:							
Interest rate swaps:							
Pay fixed non-callable	\$ 3,097,084	\$ 3,004	\$ (4,326)	2.42%	2.58%		9.75
Receive fixed non-callable	1,871,200	547	(4,484)	2.50%	1.84%		1.58
Receive fixed callable	160,000	338	(28)	2.35%	3.06%		2.91
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	373,000	2,441	(99)	2.40%	2.83%		6.12
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	316,664	796	(10,399)	3.69%	2.52%		6.25
Receive fixed non-callable	2,347,371	—	—	2.37%	2.10%		0.86
Basis swaps	1,770,026	421	(130)	2.45%	2.49%		1.27
Treasury futures	20,400	—	(188)			121.09	
Credit valuation adjustment		(60)	21				
Total financial derivatives	<u>\$ 9,955,745</u>	<u>\$ 7,487</u>	<u>\$ (19,633)</u>				
Collateral (held)/pledged		(1,778)	47,018				
Net amount		<u>\$ 5,709</u>	<u>\$ 27,385</u>				

As of June 30, 2019, Farmer Mac expects to reclassify \$0.3 million after tax from accumulated other comprehensive income to earnings over the next twelve months. This amount could differ from amounts actually recognized due to changes in interest rates, hedge de-designations, and the addition of other hedges after June 30, 2019. During the three and six months ended June 30, 2019 and 2018, there were no gains or losses from interest rate swaps designated as cash flow hedges reclassified to earnings because it became probable that the original forecasted transaction would not occur.

The following table summarizes the net income/(expense) recognized in the consolidated statements of operations related to derivatives for the three and six months ended June 30, 2019 and 2018:

Table 4.2

	For the Three Months Ended June 30, 2019				
	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives				
	Net Interest Income			Non-Interest Income	Total
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains/(losses) on financial derivatives	
	(in thousands)				
Total amounts presented in the consolidated statement of operations:	\$ 85,569	\$ 59,403	\$ (122,074)	\$ 8,913	\$ 31,811
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	1,167	(202)	(2,572)	—	(1,607)
Recognized on hedged items	30,380	6,323	(11,779)	—	24,924
Discount amortization recognized on hedged items	—	—	(164)	—	(164)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 31,547	\$ 6,121	\$ (14,515)	\$ —	\$ 23,153
Gains/(losses) on fair value hedging relationships:					
Recognized on derivatives	\$ (116,405)	\$ (33,953)	\$ 16,146	\$ —	\$ (134,212)
Recognized on hedged items	114,638	33,795	(15,649)	—	132,784
Gains/(losses) on fair value hedging relationships	\$ (1,767)	\$ (158)	\$ 497	\$ —	\$ (1,428)
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ 462	\$ —	\$ 462
Recognized on hedged items	—	—	(2,697)	—	(2,697)
Discount amortization recognized on hedged items	—	—	(1)	—	(1)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (2,236)	\$ —	\$ (2,236)
Gains on financial derivatives not designated in hedge relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 11,152	\$ 11,152
Interest expense on interest rate swaps	—	—	—	(1,146)	(1,146)
Treasury futures	—	—	—	(1,093)	(1,093)
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ 8,913	\$ 8,913

For the Three Months Ended June 30, 2018

Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives					
	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains/(losses) on financial derivatives	Total
	<i>(in thousands)</i>				
Total amounts presented in the consolidated statement of operations	\$ 74,179	\$ 49,396	\$ (91,737)	\$ 2,534	\$ 34,372
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	681	(165)	(2,320)	—	(1,804)
Recognized on hedged items	15,923	1,545	(10,074)	—	7,394
Discount amortization recognized on hedged items	—	—	(188)	—	(188)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 16,604	\$ 1,380	\$ (12,582)	\$ —	\$ 5,402
Gains/(losses) on fair value hedging relationships:					
Recognized on derivatives	\$ 12,485	\$ 2,235	\$ (2,731)	\$ —	\$ 11,989
Recognized on hedged items	(10,849)	(2,472)	3,194	—	(10,127)
Gains/(losses) on fair value hedging relationships	\$ 1,636	\$ (237)	\$ 463	\$ —	\$ 1,862
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ 57	\$ —	\$ 57
Recognized on hedged items	—	—	(2,330)	—	(2,330)
Discount amortization recognized on hedged items	—	—	(2)	—	(2)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (2,275)	\$ —	\$ (2,275)
Gains on financial derivatives not designated in hedging relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 6,265	\$ 6,265
Interest expense on interest rate swaps	—	—	—	(3,869)	(3,869)
Treasury futures	—	—	—	138	138
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ 2,534	\$ 2,534

For the Six Months Ended June 30, 2019

	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives				
	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains/(losses) on financial derivatives	Total
	(in thousands)				
Total amounts presented in the consolidated statement of operations	\$ 170,980	\$ 110,800	\$ (236,990)	\$ 8,553	\$ 53,343
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	2,717	(224)	(5,790)	—	(3,297)
Recognized on hedged items	55,198	10,878	(21,811)	—	44,265
Discount amortization recognized on hedged items	—	—	(314)	—	(314)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 57,915	\$ 10,654	\$ (27,915)	\$ —	\$ 40,654
Gains/(losses) on fair value hedging relationships:					
Recognized on derivatives	\$ (175,392)	\$ (54,034)	\$ 25,123	\$ —	\$ (204,303)
Recognized on hedged items	173,990	50,031	(23,846)	—	200,175
Gains/(losses) on fair value hedging relationships	\$ (1,402)	\$ (4,003)	\$ 1,277	\$ —	\$ (4,128)
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ 942	\$ —	\$ 942
Recognized on hedged items	—	—	(5,417)	—	(5,417)
Discount amortization recognized on hedged items	—	—	(2)	—	(2)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (4,477)	\$ —	\$ (4,477)
Gains on financial derivatives not designated in hedging relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 13,320	\$ 13,320
Interest expense on interest rate swaps	—	—	—	(3,446)	(3,446)
Treasury futures	—	—	—	(1,321)	(1,321)
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ 8,553	\$ 8,553

For the Six Months Ended June 30, 2018

	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives				
	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains/(losses) on financial derivatives	Total
	(in thousands)				
Total amounts presented in the consolidated statement of operations:	\$ 136,609	\$ 95,049	\$ (168,054)	\$ (1,316)	\$ 62,288
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	(807)	(463)	(2,614)	—	(3,884)
Recognized on hedged items	29,409	2,959	(18,628)	—	13,740
Discount amortization recognized on hedged items	—	—	(353)	—	(353)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 28,602	\$ 2,496	\$ (21,595)	\$ —	\$ 9,503
Gains/(losses) on fair value hedging relationships:					
Recognized on derivatives	\$ 32,934	\$ 8,655	\$ (12,377)	\$ —	\$ 29,212
Recognized on hedged items	(29,797)	(9,045)	14,331	—	(24,511)
Gains/(losses) on fair value hedging relationships	\$ 3,137	\$ (390)	\$ 1,954	\$ —	\$ 4,701
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ (210)	\$ —	\$ (210)
Recognized on hedged items	—	—	(4,110)	—	(4,110)
Discount amortization recognized on hedged items	—	—	(4)	—	(4)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (4,324)	\$ —	\$ (4,324)
Losses on financial derivatives not designated in hedge relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 4,176	\$ 4,176
Interest expense on interest rate swaps	—	—	—	(5,855)	(5,855)
Treasury futures	—	—	—	363	363
Losses on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ (1,316)	\$ (1,316)

The following table shows the carrying amount and associated cumulative basis adjustment related to the application of hedge accounting that is included in the carrying amount of hedged assets and liabilities in fair value hedging relationships as of June 30, 2019 and December 31, 2018:

Table 4.3

	Hedged Items in Fair Value Relationship			
	Carrying Amount of Hedged Assets/ (Liabilities)		Cumulative Amount of Fair Value Hedging Adjustments included in the Carrying Amount of the Hedged Assets/(Liabilities)	
	June 30, 2019	December 31, 2018	June 30, 2019	December 31, 2018
	<i>(in thousands)</i>			
Farmer Mac Guaranteed Securities, Available-for-Sale, at fair value	\$ 4,018,655	\$ 2,882,919	\$ 173,083	\$ (906)
Loans held for investment, at amortized cost	870,758	194,617	44,744	(5,287)
Notes Payable, due after one year ⁽¹⁾⁽²⁾	(2,136,383)	(2,021,356)	(15,156)	8,785

⁽¹⁾ Carrying amount represents amortized cost.

⁽²⁾ Includes \$0.2 million and \$0.3 million of hedging adjustments on a discontinued hedging relationship as of June 30, 2019 and December 31, 2018, respectively.

The following table shows Farmer Mac's credit exposure to interest rate swap counterparties as of June 30, 2019 and December 31, 2018:

Table 4.4

	June 30, 2019		
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet
	<i>(in thousands)</i>		

Assets:

Derivatives

Interest rate swap	\$ 51,760	\$ 47,291	\$ 4,469
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Liabilities:

Derivatives

Interest rate swap	\$ 284,549	\$ 268,132	\$ 16,417
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⁽¹⁾ Gross amount excludes netting arrangements and any adjustment for nonperformance risk, but includes accrued interest.

	December 31, 2018		
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet
	<i>(in thousands)</i>		

Assets:

Derivatives

Interest rate swaps	\$ 51,267	\$ 48,124	\$ 3,143
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Liabilities:

Derivatives

Interest rate swaps	\$ 78,437	\$ 64,568	\$ 13,869
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⁽¹⁾ Gross amount excludes netting arrangements and any adjustment for nonperformance risk, but includes accrued interest.

As of June 30, 2019, Farmer Mac held \$4.4 million of cash and no investment securities as collateral for its derivatives in net asset positions resulting in uncollateralized net asset positions of \$44,000. As of December 31, 2018, Farmer Mac held \$0.7 million of cash and \$1.1 million of investment securities as collateral for its derivatives in net asset positions, resulting in uncollateralized net asset positions of \$1.4 million.

Farmer Mac posted \$0.1 million of cash and \$100.7 million of investment securities as of June 30, 2019 and posted no cash and \$47.0 million investment securities as of December 31, 2018. Farmer Mac records posted cash as a reduction in the outstanding balance of cash and cash equivalents and an increase in the balance of prepaid expenses and other assets. Any investment securities posted as collateral are included in the investment securities balances on the consolidated balance sheets. If Farmer Mac had breached certain provisions of the derivative contracts as of June 30, 2019 and December 31, 2018, it could have been required to settle its obligations under the agreements, but would not have been required to post additional collateral. As of June 30, 2019 and December 31, 2018, there were no financial derivatives in a net payable position where Farmer Mac was required to pledge collateral which the counterparty had the right to sell or repledge.

Of Farmer Mac's \$13.2 billion notional amount of interest rate swaps outstanding as of June 30, 2019, \$10.7 billion were cleared through the swap clearinghouse, the Chicago Mercantile Exchange ("CME"). Of Farmer Mac's \$9.9 billion notional amount of interest rate swaps outstanding as of December 31, 2018, \$8.5 billion were cleared through the swap clearinghouse. For more information about interest rate swaps cleared through a clearinghouse, see Note 6 in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

5. LOANS AND ALLOWANCE FOR LOSSES

Loans

Farmer Mac classifies loans as either held for investment or held for sale. Loans held for investment are recorded at the unpaid principal balance, net of unamortized premium or discount and other cost adjustments. The following table displays the composition of the loan balances as of June 30, 2019 and December 31, 2018:

Table 5.1

	As of June 30, 2019			As of December 31, 2018		
	Unsecuritized	In Consolidated Trusts	Total	Unsecuritized	In Consolidated Trusts	Total
<i>(in thousands)</i>						
Farm & Ranch	\$ 3,191,035	\$ 1,563,223	\$ 4,754,258	\$ 3,071,222	\$ 1,517,101	\$ 4,588,323
Rural Utilities	1,527,150	—	1,527,150	938,843	—	938,843
Total unpaid principal balance ⁽¹⁾	4,718,185	1,563,223	6,281,408	4,010,065	1,517,101	5,527,166
Unamortized premiums, discounts, and other cost basis adjustments	41,861	—	41,861	(5,097)	—	(5,097)
Total loans	4,760,046	1,563,223	6,323,269	4,004,968	1,517,101	5,522,069
Allowance for loan losses	(5,822)	(1,442)	(7,264)	(5,565)	(1,452)	(7,017)
Total loans, net of allowance	\$ 4,754,224	\$ 1,561,781	\$ 6,316,005	\$ 3,999,403	\$ 1,515,649	\$ 5,515,052

⁽¹⁾ Unpaid principal balance is the basis of presentation in disclosures of outstanding balances for Farmer Mac's lines of business.

Allowance for Losses

Farm & Ranch

The following is a summary of the changes in the total allowance for losses for the three and six months ended June 30, 2019 and 2018:

Table 5.2

	June 30, 2019			June 30, 2018		
	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses
	(in thousands)					
For the Three Months Ended:						
Beginning Balance	\$ 6,753	\$ 2,038	8,791	\$ 6,365	\$ 2,091	8,456
Provision for/(release of) losses	578	(158)	420	424	158	582
Charge-offs	(67)	—	(67)	—	—	—
Ending Balance	7,264	1,880	9,144	6,789	2,249	9,038
For the Six Months Ended:						
Beginning Balance	\$ 7,017	\$ 2,167	9,184	\$ 6,796	\$ 2,070	8,866
Provision for/(release of) losses	314	(287)	27	(7)	179	172
Charge-offs	(67)	—	(67)	—	—	—
Ending Balance	7,264	1,880	9,144	6,789	2,249	9,038

The provision for the allowance for loan losses recorded during second quarter 2019 was attributable to an increase in the general allowance due to net volume growth in on-balance sheet Farm & Ranch loans and a slight decrease in the portfolio credit quality of loan purchases. The release from the reserve for losses recorded during second quarter 2019 was primarily attributable to a net volume decrease in off-balance sheet Farm & Ranch LTSPCs and a slight improvement in off-balance sheet portfolio credit quality. The \$0.1 million charge-off that occurred during the three and six months ended June 30, 2019 related to the foreclosure of one part-time farm loan.

During second quarter 2018, Farmer Mac recorded a provision to both its allowance for loan losses and reserve for losses of \$0.4 million and \$0.2 million, respectively. The net provisions to the total allowance for loan losses recorded during second quarter 2018 were attributable to (1) a modest decrease in overall portfolio credit quality, and (2) an increase in the general allowance due to net volume growth in both on and off-balance sheet Farm & Ranch loans, primarily related to new agricultural storage and processing loans purchased during second quarter 2018. Farmer Mac recorded no charge-offs to its allowance for loan losses during second quarter 2018.

The following tables present the changes in the total allowance for losses for the three and six months ended June 30, 2019 and 2018 by commodity type:

Table 5.3

June 30, 2019							
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
For the Three Months Ended:							
Beginning Balance	\$ 4,233	\$ 1,934	\$ 1,452	\$ 413	\$ 737	\$ 22	\$ 8,791
Provision for/(release of) losses	540	(8)	(29)	54	(134)	(3)	420
Charge-offs	—	—	—	(67)	—	—	(67)
Ending Balance	<u>\$ 4,773</u>	<u>\$ 1,926</u>	<u>\$ 1,423</u>	<u>\$ 400</u>	<u>\$ 603</u>	<u>\$ 19</u>	<u>\$ 9,144</u>
For the Six Months Ended:							
Beginning Balance	\$ 4,394	\$ 2,126	\$ 1,460	\$ 474	\$ 720	\$ 10	\$ 9,184
Provision for/(release of) losses	379	(200)	(37)	(7)	(117)	9	27
Charge-offs	—	—	—	(67)	—	—	(67)
Ending Balance	<u>\$ 4,773</u>	<u>\$ 1,926</u>	<u>\$ 1,423</u>	<u>\$ 400</u>	<u>\$ 603</u>	<u>\$ 19</u>	<u>\$ 9,144</u>
June 30, 2018							
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
For the Three Months Ended:							
Beginning Balance	\$ 3,793	\$ 2,479	\$ 1,236	\$ 413	\$ 522	\$ 13	\$ 8,456
Provision for/(release of) losses	332	(111)	86	35	198	42	582
Ending Balance	<u>\$ 4,125</u>	<u>\$ 2,368</u>	<u>\$ 1,322</u>	<u>\$ 448</u>	<u>\$ 720</u>	<u>\$ 55</u>	<u>\$ 9,038</u>
For the Six Months Ended:							
Beginning Balance	\$ 4,081	\$ 2,469	\$ 1,211	\$ 481	\$ 606	\$ 18	\$ 8,866
Provision for/(release of) losses	44	(101)	111	(33)	114	37	172
Ending Balance	<u>\$ 4,125</u>	<u>\$ 2,368</u>	<u>\$ 1,322</u>	<u>\$ 448</u>	<u>\$ 720</u>	<u>\$ 55</u>	<u>\$ 9,038</u>

The following tables present the unpaid principal balances of loans held and loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities (excluding AgVantage securities) and the related total allowance for losses by impairment method and commodity type as of June 30, 2019 and December 31, 2018:

Table 5.4

	As of June 30, 2019						
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	(in thousands)						
Ending Balance:							
Collectively evaluated for impairment:							
On-balance sheet	\$ 2,501,439	\$ 1,021,253	\$ 725,595	\$ 333,130	\$ 11,581	\$ 4,620	\$ 4,597,618
Off-balance sheet	1,185,547	492,572	608,511	163,365	68,979	2,962	2,521,936
Total	\$ 3,686,986	\$ 1,513,825	\$ 1,334,106	\$ 496,495	\$ 80,560	\$ 7,582	\$ 7,119,554
Individually evaluated for impairment:							
On-balance sheet	\$ 90,891	\$ 36,619	\$ 21,932	\$ 7,198	\$ —	\$ —	\$ 156,640
Off-balance sheet	7,869	2,128	4,243	860	—	58	15,158
Total	\$ 98,760	\$ 38,747	\$ 26,175	\$ 8,058	\$ —	\$ 58	\$ 171,798
Total Farm & Ranch loans:							
On-balance sheet	\$ 2,592,330	\$ 1,057,872	\$ 747,527	\$ 340,328	\$ 11,581	\$ 4,620	\$ 4,754,258
Off-balance sheet	1,193,416	494,700	612,754	164,225	68,979	3,020	2,537,094
Total	<u>\$ 3,785,746</u>	<u>\$ 1,552,572</u>	<u>\$ 1,360,281</u>	<u>\$ 504,553</u>	<u>\$ 80,560</u>	<u>\$ 7,640</u>	<u>\$ 7,291,352</u>
Allowance for Losses:							
Collectively evaluated for impairment:							
On-balance sheet	\$ 1,817	\$ 932	\$ 651	\$ 251	\$ 49	\$ 14	\$ 3,714
Off-balance sheet	612	112	277	25	554	5	1,585
Total	\$ 2,429	\$ 1,044	\$ 928	\$ 276	\$ 603	\$ 19	\$ 5,299
Individually evaluated for impairment:							
On-balance sheet	\$ 2,194	\$ 832	\$ 418	\$ 106	\$ —	\$ —	\$ 3,550
Off-balance sheet	150	50	77	18	—	—	295
Total	\$ 2,344	\$ 882	\$ 495	\$ 124	\$ —	\$ —	\$ 3,845
Total Farm & Ranch loans:							
On-balance sheet	\$ 4,011	\$ 1,764	\$ 1,069	\$ 357	\$ 49	\$ 14	\$ 7,264
Off-balance sheet	762	162	354	43	554	5	1,880
Total	\$ 4,773	\$ 1,926	\$ 1,423	\$ 400	\$ 603	\$ 19	\$ 9,144

As of December 31, 2018

	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	(in thousands)						
Ending Balance:							
Collectively evaluated for impairment:							
On-balance sheet	\$ 2,452,803	\$ 952,719	\$ 705,752	\$ 329,070	\$ 12,097	\$ 4,477	\$ 4,456,918
Off-balance sheet	1,239,094	515,520	624,522	166,907	73,084	3,286	2,622,413
Total	\$ 3,691,897	\$ 1,468,239	\$ 1,330,274	\$ 495,977	\$ 85,181	\$ 7,763	\$ 7,079,331
Individually evaluated for impairment:							
On-balance sheet	\$ 66,432	\$ 36,333	\$ 21,361	\$ 7,278	\$ —	\$ —	\$ 131,404
Off-balance sheet	13,298	5,249	3,737	883	—	69	23,236
Total	\$ 79,730	\$ 41,582	\$ 25,098	\$ 8,161	\$ —	\$ 69	\$ 154,640
Total Farm & Ranch loans:							
On-balance sheet	\$ 2,519,235	\$ 989,052	\$ 727,113	\$ 336,348	\$ 12,097	\$ 4,477	\$ 4,588,322
Off-balance sheet	1,252,392	520,769	628,259	167,790	73,084	3,355	2,645,649
Total	\$ 3,771,627	\$ 1,509,821	\$ 1,355,372	\$ 504,138	\$ 85,181	\$ 7,832	\$ 7,233,971
Allowance for Losses:							
Collectively evaluated for impairment:							
On-balance sheet	\$ 2,120	\$ 822	\$ 731	\$ 303	\$ 84	\$ 4	\$ 4,064
Off-balance sheet	668	170	207	29	636	5	1,715
Total	\$ 2,788	\$ 992	\$ 938	\$ 332	\$ 720	\$ 9	\$ 5,779
Individually evaluated for impairment:							
On-balance sheet	\$ 1,329	\$ 1,065	\$ 437	\$ 122	\$ —	\$ —	\$ 2,953
Off-balance sheet	277	69	85	20	—	1	452
Total	\$ 1,606	\$ 1,134	\$ 522	\$ 142	\$ —	\$ 1	\$ 3,405
Total Farm & Ranch loans:							
On-balance sheet	\$ 3,449	\$ 1,887	\$ 1,168	\$ 425	\$ 84	\$ 4	\$ 7,017
Off-balance sheet	945	239	292	49	636	6	2,167
Total	\$ 4,394	\$ 2,126	\$ 1,460	\$ 474	\$ 720	\$ 10	\$ 9,184

The following tables present by commodity type the unpaid principal balances, recorded investment, and specific allowance for losses related to impaired loans and the recorded investment in loans on nonaccrual status as of June 30, 2019 and December 31, 2018:

Table 5.5

	As of June 30, 2019							
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total	
	(in thousands)							
Impaired Loans:								
With no specific allowance:								
Recorded investment	\$ 25,163	\$ 14,402	\$ 7,475	\$ 1,903	\$ —	\$ 58	\$ 49,001	
Unpaid principal balance	25,067	14,346	7,447	1,895	—	58	48,813	
With a specific allowance:								
Recorded investment ⁽¹⁾	73,953	24,489	18,786	6,184	—	—	123,412	
Unpaid principal balance	73,693	24,401	18,728	6,163	—	—	122,985	
Associated allowance	2,344	882	495	124	—	—	3,845	
Total:								
Recorded investment	99,116	38,891	26,261	8,087	—	58	172,413	
Unpaid principal balance	98,760	38,747	26,175	8,058	—	58	171,798	
Associated allowance	2,344	882	495	124	—	—	3,845	
Recorded investment of loans on nonaccrual status ⁽²⁾	\$ 35,437	\$ 12,778	\$ 10,289	\$ 3,351	\$ —	\$ —	\$ 61,855	

⁽¹⁾ Impairment analysis was performed in the aggregate in consideration of similar risk characteristics of the assets and historical statistics on \$121.0 million (70%) of impaired loans as of June 30, 2019, which resulted in a specific allowance of \$2.6 million.

⁽²⁾ Includes \$41.0 million of loans that are less than 90 days delinquent but which have not met Farmer Mac's performance criteria for returning to accrual status.

As of December 31, 2018														
	Crops		Permanent Plantings		Livestock		Part-time Farm		Ag. Storage and Processing		Other		Total	
(in thousands)														
Impaired Loans:														
With no specific allowance:														
Recorded investment	\$	20,734	\$	3,592	\$	5,764	\$	1,922	\$	—	\$	—	\$	32,012
Unpaid principal balance		20,632		3,573		5,737		1,912		—		—		31,854
With a specific allowance:														
Recorded investment ⁽¹⁾		59,335		38,176		19,443		6,276		—		70		123,300
Unpaid principal balance		59,098		38,009		19,361		6,249		—		69		122,786
Associated allowance		1,606		1,134		522		142		—		1		3,405
Total:														
Recorded investment		80,069		41,768		25,207		8,198		—		70		155,312
Unpaid principal balance		79,730		41,582		25,098		8,161		—		69		154,640
Associated allowance		1,606		1,134		522		142		—		1		3,405
Recorded investment of loans on nonaccrual status ⁽²⁾	\$	26,611	\$	21,349	\$	8,803	\$	4,645	\$	—	\$	—	\$	61,408

⁽¹⁾ Impairment analysis was performed in the aggregate in consideration of similar risk characteristics of the assets and historical statistics on \$120.9 million (78%) of impaired loans as of December 31, 2018, which resulted in a specific allowance of \$2.7 million.

⁽²⁾ Includes \$41.8 million of loans that are less than 90 days delinquent but which have not met Farmer Mac's performance criteria for returning to accrual status.

The following table presents by commodity type the average recorded investment and interest income recognized on impaired loans for the three and six months ended June 30, 2019 and 2018:

Table 5.6

	June 30, 2019						
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	(in thousands)						
For the Three Months Ended:							
Average recorded investment in impaired loans	\$ 98,176	\$ 39,056	\$ 28,650	\$ 7,675	\$ —	\$ 59	\$ 173,616
Income recognized on impaired loans	379	121	304	55	—	—	859
For the Six Months Ended:							
Average recorded investment in impaired loans	\$ 85,652	\$ 41,903	\$ 26,279	\$ 8,268	\$ —	\$ 66	\$ 162,168
Income recognized on impaired loans	701	420	417	122	—	—	1,660

	June 30, 2018						
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	(in thousands)						
For the Three Months Ended:							
Average recorded investment in impaired loans	\$ 72,041	\$ 49,919	\$ 23,453	\$ 9,214	\$ —	\$ 392	\$ 155,019
Income recognized on impaired loans	327	492	60	62	—	—	941
For the Six Months Ended:							
Average recorded investment in impaired loans	\$ 74,527	\$ 45,945	\$ 21,361	\$ 8,780	\$ —	\$ 557	\$ 151,170
Income recognized on impaired loans	719	664	139	117	—	—	1,639

Net credit losses and 90-day delinquencies as of and for the periods indicated for loans held and loans underlying off-balance sheet securities representing interests in pools of eligible Farm & Ranch loans ("Farm & Ranch Guaranteed Securities") and LTSPCs are presented in the table below. As of June 30, 2019, there were no delinquencies and no probable losses inherent in Farmer Mac's Rural Utilities loan portfolio and Farmer Mac had not experienced credit losses on any Rural Utilities loans.

Table 5.7

	90-Day Delinquencies ⁽¹⁾		Net Credit Losses/(Recoveries)	
	As of		For the Six Months Ended	
	June 30, 2019	December 31, 2018	June 30, 2019	June 30, 2018
<i>(in thousands)</i>				
On-balance sheet assets:				
Farm & Ranch:				
Loans	\$ 20,812	\$ 19,577	\$ 131	\$ (18)
Total on-balance sheet	\$ 20,812	\$ 19,577	\$ 131	\$ (18)
Off-balance sheet assets:				
Farm & Ranch:				
LTSPCs	\$ 7,233	\$ 7,304	\$ —	\$ —
Total off-balance sheet	\$ 7,233	\$ 7,304	\$ —	\$ —
Total	\$ 28,045	\$ 26,881	\$ 131	\$ (18)

⁽¹⁾ Includes loans and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs that are 90 days or more past due, in foreclosure, or in bankruptcy with at least one missed payment, excluding loans performing under either their original loan terms or a court-approved bankruptcy plan.

Of the \$20.8 million of on-balance sheet loans reported as 90-day delinquencies as of June 30, 2019, \$0.1 million were loans subject to "removal-of-account" provisions. Of the \$19.6 million of on-balance sheet loans reported as 90-day delinquencies as of December 31, 2018, \$0.1 million were loans subject to "removal-of-account" provisions.

Credit Quality Indicators

The following tables present credit quality indicators related to Farm & Ranch loans held and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities as of June 30, 2019 and December 31, 2018:

Table 5.8

As of June 30, 2019							
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
Credit risk profile by internally assigned grade⁽¹⁾							
On-balance sheet:							
Acceptable	\$ 2,421,677	\$ 972,075	\$ 691,516	\$ 320,449	\$ 11,581	\$ 4,620	\$ 4,421,918
Special mention ⁽²⁾	79,905	49,178	34,079	12,681	—	—	175,843
Substandard ⁽³⁾	90,748	36,619	21,932	7,198	—	—	156,497
Total on-balance sheet	\$ 2,592,330	\$ 1,057,872	\$ 747,527	\$ 340,328	\$ 11,581	\$ 4,620	\$ 4,754,258
Off-Balance Sheet:							
Acceptable	\$ 1,069,784	\$ 462,735	\$ 552,051	\$ 159,738	\$ 68,979	\$ 2,364	\$ 2,315,651
Special mention ⁽²⁾	77,264	23,893	33,223	857	—	—	135,237
Substandard ⁽³⁾	46,368	8,072	27,480	3,630	—	656	86,206
Total off-balance sheet	\$ 1,193,416	\$ 494,700	\$ 612,754	\$ 164,225	\$ 68,979	\$ 3,020	\$ 2,537,094
Total Ending Balance:							
Acceptable	\$ 3,491,461	\$ 1,434,810	\$ 1,243,567	\$ 480,187	\$ 80,560	\$ 6,984	\$ 6,737,569
Special mention ⁽²⁾	157,169	73,071	67,302	13,538	—	—	311,080
Substandard ⁽³⁾	137,116	44,691	49,412	10,828	—	656	242,703
Total	\$ 3,785,746	\$ 1,552,572	\$ 1,360,281	\$ 504,553	\$ 80,560	\$ 7,640	\$ 7,291,352
Commodity analysis of past due loans⁽¹⁾							
On-balance sheet	\$ 10,677	\$ 3,375	\$ 4,854	\$ 1,906	\$ —	\$ —	\$ 20,812
Off-balance sheet	4,706	911	1,128	488	—	—	7,233
90 days or more past due	\$ 15,383	\$ 4,286	\$ 5,982	\$ 2,394	\$ —	\$ —	\$ 28,045

⁽¹⁾ Amounts represent unpaid principal balance of risk-rated loans, which is the basis Farmer Mac uses to analyze its portfolio, and recorded investment of past due loans.

⁽²⁾ Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.

⁽³⁾ Substandard assets have a well-defined weakness or weaknesses and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected.

As of December 31, 2018

	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
Credit risk profile by internally assigned grade⁽¹⁾							
On-balance sheet:							
Acceptable	\$ 2,381,853	\$ 937,793	\$ 679,253	\$ 321,345	\$ 10,604	\$ 4,477	\$ 4,335,325
Special mention ⁽²⁾	71,096	14,926	26,499	7,725	1,493	—	121,739
Substandard ⁽³⁾	66,286	36,333	21,361	7,278	—	—	131,258
Total on-balance sheet	\$ 2,519,235	\$ 989,052	\$ 727,113	\$ 336,348	\$ 12,097	\$ 4,477	\$ 4,588,322
Off-Balance Sheet							
Acceptable	\$ 1,128,787	\$ 469,479	\$ 577,708	\$ 162,730	\$ 71,959	\$ 2,656	\$ 2,413,319
Special mention ⁽²⁾	62,430	36,778	30,703	1,023	—	—	130,934
Substandard ⁽³⁾	61,175	14,512	19,848	4,037	1,125	699	101,396
Total off-balance sheet	\$ 1,252,392	\$ 520,769	\$ 628,259	\$ 167,790	\$ 73,084	\$ 3,355	\$ 2,645,649
Total Ending Balance:							
Acceptable	\$ 3,510,640	\$ 1,407,272	\$ 1,256,961	\$ 484,075	\$ 82,563	\$ 7,133	\$ 6,748,644
Special mention ⁽²⁾	133,526	51,704	57,202	8,748	1,493	—	252,673
Substandard ⁽³⁾	127,461	50,845	41,209	11,315	1,125	699	232,654
Total	\$ 3,771,627	\$ 1,509,821	\$ 1,355,372	\$ 504,138	\$ 85,181	\$ 7,832	\$ 7,233,971
Commodity analysis of past due loans⁽¹⁾							
On-balance sheet	\$ 8,345	\$ 2,997	\$ 4,059	\$ 4,176	\$ —	\$ —	\$ 19,577
Off-balance sheet	6,476	197	—	631	—	—	7,304
90 days or more past due	\$ 14,821	\$ 3,194	\$ 4,059	\$ 4,807	\$ —	\$ —	\$ 26,881

⁽¹⁾ Amounts represent unpaid principal balance of risk-rated loans, which is the basis Farmer Mac uses to analyze its portfolio, and recorded investment of past due loans.

⁽²⁾ Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.

⁽³⁾ Substandard assets have a well-defined weakness or weaknesses and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected.

Concentrations of Credit Risk

The following table sets forth the geographic and commodity/collateral diversification, the range of original loan-to-value ratios, and the range in the size of borrower exposure for all Farm & Ranch loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs as of June 30, 2019 and December 31, 2018:

Table 5.9

	As of	
	June 30, 2019	December 31, 2018
	(in thousands)	
By commodity/collateral type:		
Crops	\$ 3,785,746	\$ 3,771,627
Permanent plantings	1,552,572	1,509,821
Livestock	1,360,281	1,355,372
Part-time farm	504,553	504,138
Ag. Storage and Processing	80,560	85,181
Other	7,640	7,832
Total	<u>\$ 7,291,352</u>	<u>\$ 7,233,971</u>
By geographic region ⁽¹⁾ :		
Northwest	\$ 847,475	\$ 855,596
Southwest	2,337,303	2,273,184
Mid-North	2,304,637	2,296,073
Mid-South	891,870	883,279
Northeast	340,290	332,370
Southeast	569,777	593,469
Total	<u>\$ 7,291,352</u>	<u>\$ 7,233,971</u>
By original loan-to-value ratio:		
0.00% to 40.00%	\$ 1,298,487	\$ 1,333,790
40.01% to 50.00%	1,856,262	1,811,166
50.01% to 60.00%	2,556,271	2,530,484
60.01% to 70.00%	1,268,048	1,244,823
70.01% to 80.00% ⁽²⁾	292,080	289,427
80.01% to 90.00% ⁽²⁾	20,204	24,281
Total	<u>\$ 7,291,352</u>	<u>\$ 7,233,971</u>
By size of borrower exposure ⁽³⁾ :		
Less than \$1,000,000	\$ 2,438,984	\$ 2,431,296
\$1,000,000 to \$4,999,999	2,766,582	2,755,996
\$5,000,000 to \$9,999,999	927,153	916,422
\$10,000,000 to \$24,999,999	612,040	601,349
\$25,000,000 and greater	546,593	528,908
Total	<u>\$ 7,291,352</u>	<u>\$ 7,233,971</u>

⁽¹⁾ Geographic regions: Northwest (AK, ID, MT, OR, WA, WY); Southwest (AZ, CA, CO, HI, NM, NV, UT); Mid-North (IA, IL, IN, MI, MN, NE, ND, SD, WI); Mid-South (AR, KS, LA, MO, OK, TX); Northeast (CT, DE, KY, MA, MD, ME, NH, NJ, NY, OH, PA, RI, VA, VT, WV); Southeast (AL, FL, GA, MS, NC, SC, TN).

⁽²⁾ Primarily part-time farm loans. Loans with original loan-to-value ratios of greater than 80% are required to have private mortgage insurance.

⁽³⁾ Includes multiple loans to the same borrower or borrower-related entities.

The original loan-to-value ratio is calculated by dividing the loan principal balance at the time of guarantee, purchase, or commitment by the appraised value at the date of loan origination or, when

available, the updated appraised value at the time of guarantee, purchase, or commitment. Current loan-to-value ratios may be higher or lower than the original loan-to-value ratios.

6. GUARANTEES AND LONG-TERM STANDBY PURCHASE COMMITMENTS

The following table presents the maximum principal amount of potential undiscounted future payments that Farmer Mac could be required to make under all off-balance sheet Farmer Mac Guaranteed Securities as of June 30, 2019 and December 31, 2018, not including offsets provided by any recourse provisions, recoveries from third parties, or collateral for the underlying loans:

Table 6.1

Outstanding Balance of Off-Balance Sheet Farmer Mac Guaranteed Securities			
	As of June 30, 2019		As of December 31, 2018
	(in thousands)		
Farm & Ranch:			
Guaranteed Securities	\$	121,064	\$ 135,862
USDA Guarantees:			
Farmer Mac Guaranteed USDA Securities		398,710	367,684
Institutional Credit:			
AgVantage Securities		9,225	9,898
Revolving floating rate AgVantage facility ⁽¹⁾		300,000	300,000
Total off-balance sheet Farmer Mac Guaranteed Securities	\$	828,999	\$ 813,444

⁽¹⁾ Relates to a revolving floating rate AgVantage facility subject to specified contractual terms. Farmer Mac receives a fixed fee based on the full dollar amount of the facility.

Eligible loans and other eligible assets may be placed into trusts that are used as vehicles for the securitization of the transferred assets and the Farmer Mac-guaranteed beneficial interests in the trusts are sold to investors. The following table summarizes the significant cash flows received from and paid to trusts used for Farmer Mac securitizations:

Table 6.2

	For the Six Months Ended	
	June 30, 2019	June 30, 2018
	<i>(in thousands)</i>	
Proceeds from new securitizations	\$ 166,351	\$ 196,290
Guarantee fees received	861	1,063

Farmer Mac has recorded a liability for its obligation to stand ready under the guarantee in the guarantee and commitment obligation on the consolidated balance sheets. This liability approximated \$2.5 million and \$2.8 million as of June 30, 2019 and December 31, 2018, respectively. As of June 30, 2019 and December 31, 2018, the weighted-average remaining maturity of all loans underlying off-balance sheet Farmer Mac Guaranteed Securities, excluding AgVantage securities, was 10.1 years and 10.3 years, respectively. As of June 30, 2019 and December 31, 2018, the weighted-average remaining maturity of the off-balance sheet AgVantage securities was 2.6 years and 5.0 years, respectively.

Long-Term Standby Purchase Commitments

A LTSPC is a commitment by Farmer Mac to purchase eligible loans from an identified pool of loans under specified circumstances set forth in the applicable agreement, either for cash or in exchange for Farmer Mac Guaranteed Securities, on one or more undetermined future dates. As consideration for its assumption of the credit risk on loans underlying an LTSPC, Farmer Mac receives a commitment fee payable monthly in arrears.

The maximum principal amount of potential undiscounted future payments that Farmer Mac could be requested to make under all LTSPCs, not including offsets provided by any recourse provisions, recoveries from third parties, or collateral for the underlying loans, was \$3.0 billion and \$3.2 billion as of June 30, 2019 and December 31, 2018, respectively.

As of both June 30, 2019 and December 31, 2018, the weighted-average remaining maturity of all loans underlying LTSPCs was 15.3 years. For those LTSPCs issued or modified on or after January 1, 2003, Farmer Mac has recorded a liability for its obligation to stand ready under the commitment in the guarantee and commitment obligation on the consolidated balance sheets. This liability approximated \$34.7 million and \$35.9 million as of June 30, 2019 and December 31, 2018, respectively.

7. EQUITY

Preferred Stock

On May 13, 2019, Farmer Mac issued 4.0 million shares of 5.700% Non-Cumulative Preferred Stock, Series D ("Series D Preferred Stock"), which has a par value and liquidation preference of \$25.00 per share, or \$100.0 million aggregate outstanding. Farmer Mac incurred direct costs of \$3.3 million related to the issuance of the Series D Preferred Stock. The dividend rate on the Series D Preferred Stock is a fixed rate of 5.700% per year for the life of the security. Dividends on the Series D Preferred Stock are payable when, as, and if declared by the Board of Directors of Farmer Mac and are non-cumulative, so dividends that are not declared for a quarterly payment date will not accrue. The Series D Preferred Stock has no maturity date, but Farmer Mac has the option to redeem the preferred stock on any quarterly dividend payment date on and after July 17, 2024.

On June 12, 2019, Farmer Mac used part of the net proceeds from the sale of the Series D Preferred Stock to redeem and repurchase all \$75.0 million aggregate outstanding of Farmer Mac's 6.875% Non-Cumulative Preferred Stock, Series B ("Series B Preferred Stock"), plus any declared and unpaid dividends through and including the redemption date. As a result of the retirement of the Series B Preferred Stock, Farmer Mac recognized \$2.0 million of deferred issuance costs, which is presented as "Loss on retirement of preferred stock" on the consolidated statements of operations.

Common Stock

For the first and second quarter 2019, Farmer Mac paid a quarterly dividend of \$0.70 per share on all classes of its common stock. For each quarter in 2018, Farmer Mac paid a quarterly dividend of \$0.58 per share on all classes of its common stock.

Farmer Mac's Board of Directors approved a share repurchase program during third quarter 2015 authorizing Farmer Mac to repurchase up to \$25.0 million of its outstanding Class C non-voting common stock for two years. In August 2017, Farmer Mac's Board of Directors approved the continuation of the

share repurchase program on its existing terms through August 2019 for the repurchase of up to \$5.4 million of Farmer Mac's outstanding Class C non-voting common stock. This is the amount that was remaining under the share repurchase program that Farmer Mac's Board of Directors originally authorized in third quarter 2015 for the repurchase of up to \$25.0 million of outstanding Class C non-voting common stock.

On March 14, 2019, Farmer Mac's Board of Directors modified the terms of the existing share repurchase program by increasing the authorization for the repurchase to up to \$10.0 million of Farmer Mac's outstanding Class C non-voting common stock and extending the term of the program through March 2021. Farmer Mac did not repurchase any shares during the first half of 2019 under this program. As of June 30, 2019, Farmer Mac had repurchased approximately 668,000 shares of Class C non-voting common stock at a cost of approximately \$19.6 million under the share repurchase program, and has not repurchased any shares since first quarter 2016.

Capital Requirements

Farmer Mac is required to comply with the higher of the minimum capital requirement and the risk-based capital requirement. As of both June 30, 2019 and December 31, 2018, the minimum capital requirement was greater than the risk-based capital requirement. Farmer Mac's ability to declare and pay dividends could be restricted if it fails to comply with applicable capital requirements.

As of June 30, 2019, Farmer Mac's minimum capital requirement was \$595.0 million and its core capital level was \$786.6 million, which was \$191.6 million above the minimum capital requirement as of that date. As of December 31, 2018, Farmer Mac's minimum capital requirement was \$545.0 million and its core capital level was \$727.6 million, which was \$182.6 million above the minimum capital requirement as of that date.

In accordance with FCA's rule on Farmer Mac's capital planning, and as part of Farmer Mac's capital plan, Farmer Mac has adopted a policy for maintaining a sufficient level of Tier 1 capital (consisting of retained earnings, paid-in-capital, common stock, and qualifying preferred stock) and imposing restrictions on Tier 1-eligible dividends and any discretionary bonus payments in the event that this capital falls below specified thresholds.

8. FAIR VALUE DISCLOSURES

As of June 30, 2019, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at \$7.1 billion whose fair values were estimated by management in the absence of readily determinable fair values (i.e., level 3). These financial instruments measured as Level 3 represented 34% of total assets and 71% of financial instruments measured at fair value as of June 30, 2019. As of December 31, 2018, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at \$6.0 billion whose fair values were estimated by management in the absence of readily determinable fair values. These financial instruments measured as level 3 represented 32% of total assets and 73% of financial instruments measured at fair value as of December 31, 2018.

Transfers in and/or out of the different levels within the fair value hierarchy are based on the fair values of the assets and liabilities as of the beginning of the reporting period. During the first half of both 2019 and 2018, there were no transfers within the fair value hierarchy for fair value measurements of Farmer Mac's investment securities, Farmer Mac Guaranteed Securities, USDA Securities, and financial derivatives.

The following tables present information about Farmer Mac's assets and liabilities measured at fair value on a recurring basis as of June 30, 2019 and December 31, 2018, respectively, and indicate the fair value hierarchy of the valuation techniques used by Farmer Mac to determine such fair value:

Table 8.1

Assets and Liabilities Measured at Fair Value as of June 30, 2019				
	Level 1	Level 2	Level 3	Total
	<i>(in thousands)</i>			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,208	\$ 19,208
Floating rate asset-backed securities	—	25,802	—	25,802
Floating rate Government/GSE guaranteed mortgage-backed securities	—	1,603,370	—	1,603,370
Fixed rate GSE guaranteed mortgage-backed securities	—	358	—	358
Fixed rate U.S. Treasuries	1,273,766	—	—	1,273,766
Total Investment Securities	1,273,766	1,629,530	19,208	2,922,504
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	7,035,668	7,035,668
Total Farmer Mac Guaranteed Securities	—	—	7,035,668	7,035,668
USDA Securities:				
Trading	—	—	9,201	9,201
Total USDA Securities	—	—	9,201	9,201
Financial derivatives	—	7,560	—	7,560
Total Assets at fair value	\$ 1,273,766	\$ 1,637,090	\$ 7,064,077	\$ 9,974,933
Liabilities:				
Financial derivatives	\$ 188	\$ 27,241	\$ —	\$ 27,429
Total Liabilities at fair value	\$ 188	\$ 27,241	\$ —	\$ 27,429

Assets and Liabilities Measured at Fair Value as of December 31, 2018

	Level 1	Level 2	Level 3	Total
	<i>(in thousands)</i>			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 18,715	\$ 18,715
Floating rate asset-backed securities	—	28,678	—	28,678
Floating rate Government/GSE guaranteed mortgage-backed securities	—	1,377,454	—	1,377,454
Fixed rate GSE guaranteed mortgage-backed securities	—	403	—	403
Fixed rate U.S. Treasuries	792,602	—	—	792,602
Total available-for-sale	792,602	1,406,535	18,715	2,217,852
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	5,974,497	5,974,497
Total Farmer Mac Guaranteed Securities	—	—	5,974,497	5,974,497
USDA Securities:				
Trading	—	—	9,999	9,999
Total USDA Securities	—	—	9,999	9,999
Financial derivatives	—	7,487	—	7,487
Total Assets at fair value	\$ 792,602	\$ 1,414,022	\$ 6,003,211	\$ 8,209,835
Liabilities:				
Financial derivatives	\$ 188	\$ 19,445	\$ —	\$ 19,633
Total Liabilities at fair value	\$ 188	\$ 19,445	\$ —	\$ 19,633

There were no significant assets or liabilities measured at fair value on a non-recurring basis as of June 30, 2019 or December 31, 2018.

The following tables present additional information about assets and liabilities measured at fair value on a recurring basis for which Farmer Mac has used significant unobservable inputs to determine fair value. Net transfers in and/or out of Level 3 are based on the fair values of the assets and liabilities as of the beginning of the reporting period. There were no liabilities measured at fair value using significant unobservable inputs during the three and six months ended June 30, 2019 and 2018.

Table 8.2

Level 3 Assets and Liabilities Measured at Fair Value for the Three Months Ended June 30, 2019

	Beginning Balance	Purchases	Sales	Settlements	Realized and Unrealized Gains included in Income	Unrealized Gains/ (Losses) included in Other Comprehensive Income	Ending Balance
	(in thousands)						
Recurring:							
Assets:							
Investment Securities:							
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,912	\$ —	\$ —	\$ —	\$ —	\$ 296	\$ 19,208
Total available-for-sale	18,912	—	—	—	—	296	19,208
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	6,441,624	613,764	—	(98,579)	114,638	(35,779)	7,035,668
Total available-for-sale	6,441,624	613,764	—	(98,579)	114,638	(35,779)	7,035,668
USDA Securities:							
Available-for-sale	—	29,419	(29,419)	—	—	—	—
Trading	9,487	—	—	(347)	61	—	9,201
Total USDA Securities	9,487	29,419	(29,419)	(347)	61	—	9,201
Total Assets at fair value	\$ 6,470,023	\$ 643,183	\$ (29,419)	\$ (98,926)	\$ 114,699	\$ (35,483)	\$ 7,064,077

Level 3 Assets and Liabilities Measured at Fair Value for the Three Months Ended June 30, 2018

	Beginning Balance	Purchases	Sales	Settlements	Realized and Unrealized (Losses)/Gains included in Income	Unrealized Gains included in Other Comprehensive Income	Ending Balance
	<i>(in thousands)</i>						
Recurring:							
Assets:							
Investment Securities:							
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,010	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 19,010
Fixed rate GSE guaranteed mortgage-backed securities	4,120	—	—	(2,028)	(2,092)	—	—
Total available-for-sale	23,130	—	—	(2,028)	(2,092)	—	19,010
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	5,839,387	303,517	—	(149,193)	(10,850)	2,945	5,985,806
Total available-for-sale	5,839,387	303,517	—	(149,193)	(10,850)	2,945	5,985,806
USDA Securities:							
Available-for-sale	—	45,014	(45,014)	—	—	—	—
Trading ⁽¹⁾	11,558	—	—	(821)	11	—	10,748
Total USDA Securities	11,558	45,014	(45,014)	(821)	11	—	10,748
Total Assets at fair value	\$ 5,874,075	\$ 348,531	\$ (45,014)	\$ (152,042)	\$ (12,931)	\$ 2,945	\$ 6,015,564

⁽¹⁾ Includes unrealized gains of \$11,000 attributable to assets still held as of June 30, 2018 that are recorded in "Gains on trading securities."

Level 3 Assets and Liabilities Measured at Fair Value for the Six Months Ended June 30, 2019

	Beginning Balance	Purchases	Sales	Settlements	Realized and Unrealized Gains included in Income	Unrealized Gains/ (Losses) included in Other Comprehensive Income	Ending Balance
	<i>(in thousands)</i>						
Recurring:							
Assets:							
Investment Securities:							
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,715	\$ —	\$ —	\$ —	\$ —	\$ 493	\$ 19,208
Total available-for-sale	18,715	—	—	—	—	493	19,208
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	5,974,497	1,390,096	—	(470,312)	173,990	(32,603)	7,035,668
Total available-for-sale	5,974,497	1,390,096	—	(470,312)	173,990	(32,603)	7,035,668
USDA Securities:							
Available-for-sale	—	48,347	(48,347)	—	—	—	—
Trading	9,999	—	—	(903)	105	—	9,201
Total USDA Securities	9,999	48,347	(48,347)	(903)	105	—	9,201
Total Assets at fair value	\$ 6,003,211	\$ 1,438,443	\$ (48,347)	\$ (471,215)	\$ 174,095	\$ (32,110)	\$ 7,064,077

Level 3 Assets and Liabilities Measured at Fair Value for the Six Months Ended June 30, 2018

	Beginning Balance	Cumulative Effect from Change in Hedge Accounting	Purchases	Sales	Settlements	Realized and Unrealized (Losses)/ Gains included in Income	Unrealized Gains/ (Losses) included in Other Comprehen- sive Income	Ending Balance
	<i>(in thousands)</i>							
Recurring:								
Assets:								
Investment Securities:								
Available-for-sale:								
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,814	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 196	\$ 19,010
Fixed rate GSE guaranteed mortgage-backed securities	4,333	—	—	—	(2,137)	(2,092)	(104)	—
Total available-for-sale	23,147	—	—	—	(2,137)	(2,092)	92	19,010
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	5,471,914	487	958,964	—	(439,461)	(29,798)	23,700	5,985,806
Total available-for-sale	5,471,914	487	958,964	—	(439,461)	(29,798)	23,700	5,985,806
USDA Securities:								
Available-for-sale	—	—	79,307	(79,307)	—	—	—	—
Trading ⁽¹⁾	13,515	—	—	—	(2,794)	27	—	10,748
Total USDA Securities	13,515	—	79,307	(79,307)	(2,794)	27	—	10,748
Total Assets at fair value	\$5,508,576	\$ 487	\$1,038,271	\$ (79,307)	\$ (444,392)	\$ (31,863)	\$ 23,792	\$6,015,564

⁽¹⁾ Includes unrealized gains of \$0.1 million attributable to assets still held as of June 30, 2018 that are recorded in "Gains on trading securities."

The following tables present additional information about the significant unobservable inputs, such as discount rates and constant prepayment rates ("CPR"), used in the fair value measurements categorized in level 3 of the fair value hierarchy as of June 30, 2019 and December 31, 2018:

Table 8.3

	As of June 30, 2019			
Financial Instruments	Fair Value	Valuation Technique	Unobservable Input	Range (Weighted-Average)
			(in thousands)	
Assets:				
Investment securities:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,208	Indicative bids	Range of broker quotes	97.5% - 97.5% (97.5%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 7,035,668	Discounted cash flow	Discount rate	2.7% - 4.0% (3.0%)
USDA Securities	\$ 9,201	Discounted cash flow	Discount rate	3.0% - 5.2% (4.9%)
			CPR	8% - 20% (19%)
	As of December 31, 2018			
Financial Instruments	Fair Value	Valuation Technique	Unobservable Input	Range (Weighted-Average)
			(in thousands)	
Assets:				
Investment securities:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,715	Indicative bids	Range of broker quotes	95.0% - 95.0% (95.0%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 5,974,497	Discounted cash flow	Discount rate	3.0% - 4.4% (3.3%)
USDA Securities	\$ 9,999	Discounted cash flow	Discount rate	3.2% - 5.2% (4.9%)
			CPR	7% - 17% (16%)

The significant unobservable input used in the fair value measurements of AgVantage Farmer Mac Guaranteed Securities is the discount rate commensurate with the risks involved. Typically, significant increases (decreases) in this input in isolation may result in materially lower (higher) fair value measurements. Generally, in a rising interest rate environment, Farmer Mac would expect average discount rates to increase. Conversely, in a declining interest rate environment, Farmer Mac would expect average discount rates to decrease. Prepayment rates are not presented in the table above for AgVantage securities because they generally have fixed maturity dates when the secured general obligations are due and don't prepay.

The significant unobservable inputs used in the fair value measurements of USDA Securities are the prepayment rate and discount rate commensurate with the risks involved. Typically, significant increases (decreases) in any of these inputs in isolation may result in materially lower (higher) fair value measurements. Generally, in a rising interest rate environment, Farmer Mac would expect average discount rates to increase and would likely expect a corresponding decrease in forecasted prepayment rates. Conversely, in a declining interest rate environment, Farmer Mac would expect average discount rates to decrease and would likely expect a corresponding increase in forecasted prepayment rates.

Disclosures on Fair Value of Financial Instruments

The following table sets forth the estimated fair values and carrying values for financial assets, liabilities, and guarantees and commitments as of June 30, 2019 and December 31, 2018:

Table 8.4

	As of June 30, 2019		As of December 31, 2018	
	Fair Value	Carrying Amount	Fair Value	Carrying Amount
	<i>(in thousands)</i>			
Financial assets:				
Cash and cash equivalents	\$ 396,602	\$ 396,602	\$ 425,256	\$ 425,256
Investment securities	2,968,265	2,967,536	2,263,446	2,262,884
Farmer Mac Guaranteed Securities	8,627,877	8,614,843	8,061,903	8,071,115
USDA Securities	2,141,866	2,137,579	2,113,946	2,176,173
Loans	6,403,950	6,316,005	5,512,781	5,515,052
Financial derivatives	7,560	7,560	7,487	7,487
Guarantee and commitment fees receivable:				
LTSPCs	33,678	35,835	37,461	36,870
Farmer Mac Guaranteed Securities	2,721	2,974	3,424	3,496
Financial liabilities:				
Notes payable:				
Due within one year	9,937,380	9,939,589	7,744,388	7,757,050
Due after one year	8,360,759	8,247,829	8,473,558	8,486,647
Debt securities of consolidated trusts held by third parties	1,583,839	1,570,862	1,501,754	1,528,957
Financial derivatives	27,429	27,429	19,633	19,633
Guarantee and commitment obligations:				
LTSPCs	32,549	34,706	36,471	35,880
Farmer Mac Guaranteed Securities	2,287	2,540	2,731	2,803

The carrying value of cash and cash equivalents is a reasonable estimate of their approximate fair value and is classified as Level 1. The fair value of investments in U.S. Treasuries are valued based on unadjusted quoted prices in active markets and are classified as Level 1. A significant portion of Farmer Mac's investment portfolio is valued using a reputable nationally recognized third-party pricing service. The prices obtained are non-binding and generally representative of recent market trades and are classified as Level 2. Farmer Mac internally models the fair value of its loan portfolio, including loans held for investment and loans held for investment in consolidated trusts, Farmer Mac Guaranteed Securities, and USDA Securities by discounting the projected cash flows of these instruments at projected interest rates. The fair values are based on the present value of expected cash flows using management's best estimate of certain key assumptions, which include prepayment speeds, forward yield curves and discount rates commensurate with the risks involved. These fair value measurements do not take into consideration the fair value of the underlying property and are classified as Level 3. Financial derivatives primarily are valued using unadjusted counterparty valuations and are classified as Level 2. The fair value of the guarantee fees receivable/obligation and debt securities of consolidated trusts are estimated based on the present value of expected future cash flows of the underlying mortgage assets using management's best estimate of certain key assumptions, which include prepayments speeds, forward yield curves, and discount rates commensurate with the risks involved and are classified as Level 3. Notes payable are valued by discounting the expected cash flows of these instruments using a yield curve derived from

market prices observed for similar agency securities and are also classified as Level 3. Because the cash flows of Farmer Mac's financial instruments may be interest rate path dependent, estimated fair values and projected discount rates for Level 3 financial instruments are derived using a Monte Carlo simulation model. Different market assumptions and estimation methodologies could significantly affect estimated fair value amounts.

9. BUSINESS SEGMENT REPORTING

The following tables present core earnings for Farmer Mac's operating segments and a reconciliation to consolidated net income for the three and six months ended June 30, 2019 and 2018:

Table 9.1

Core Earnings by Business Segment For the Three Months Ended June 30, 2019							
	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
	<i>(in thousands)</i>						
Net interest income	\$ 15,797	\$ 4,112	\$ 3,936	\$ 16,385	\$ 2,824	\$ —	\$ 43,054
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(2,462)	(15)	60	986	(268)	1,699	—
Net effective spread	13,335	4,097	3,996	17,371	2,556	1,699	—
Guarantee and commitment fees ⁽²⁾	4,594	238	358	86	—	(1,873)	3,403
Other income/(expense) ⁽³⁾	188	—	7	—	582	8,552	9,329
Non-interest income/(loss)	4,782	238	365	86	582	6,679	12,732
Provision for loan losses	(578)	—	—	—	—	—	(578)
Release of reserve for losses	158	—	—	—	—	—	158
Other non-interest expense	(4,587)	(1,345)	(816)	(2,034)	(3,428)	—	(12,210)
Non-interest expense ⁽⁴⁾	(4,429)	(1,345)	(816)	(2,034)	(3,428)	—	(12,052)
Core earnings before income taxes	13,110	2,990	3,545	15,423	(290)	8,378 ⁽⁵⁾	43,156
Income tax (expense)/benefit	(2,753)	(628)	(744)	(3,239)	13	(1,760)	(9,111)
Core earnings before preferred stock dividends and attribution of income to non-controlling interest	10,357	2,362	2,801	12,184	(277)	6,618 ⁽⁵⁾	34,045
Preferred stock dividends	—	—	—	—	(3,785)	—	(3,785)
Loss on retirement of preferred stock	—	—	—	—	—	(1,956)	(1,956)
Segment core earnings/(losses)	\$ 10,357	\$ 2,362	\$ 2,801	\$ 12,184	\$ (4,062)	\$ 4,662 ⁽⁵⁾	\$ 28,304
Total assets at carrying value	\$ 4,872,766	\$ 2,198,514	\$ 1,580,979	\$ 8,633,059	\$ 3,452,842	\$ —	\$ 20,738,160
Total on- and off-balance sheet program assets at principal balance	\$ 7,291,352	\$ 2,521,394	\$ 2,155,671	\$ 8,778,318	\$ —	\$ —	\$ 20,746,735

- (1) Excludes the amortization of premiums and discounts on assets consolidated at fair value, originally included in interest income, to reflect core earnings amounts
- (2) Includes the reclassification of interest income and interest expense from consolidated trusts owned by third parties to guarantee and commitment fees, to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee.
- (3) Includes the reclassification of interest expense related to interest rate swaps not designated as hedges, which are included in "Gains/(losses) on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends and attribution of income to non-controlling interest reconciled to net income; and segment core earnings reconciled to net income attributable to common stockholders.

Core Earnings by Business Segment
For the Three Months Ended June 30, 2018

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
<i>(in thousands)</i>							
Net interest income	\$ 15,889	\$ 5,072	\$ 3,313	\$ 18,805	\$ 854	\$ —	\$ 43,933
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(2,542)	(674)	(390)	(3,585)	(580)	7,771	—
Net effective spread	13,347	4,398	2,923	15,220	274	7,771	—
Guarantee and commitment fees ⁽²⁾	4,488	190	402	91	—	(1,690)	3,481
Other income/(expense) ⁽³⁾	341	8	5	—	(209)	2,754	2,899
Non-interest income/(loss)	4,829	198	407	91	(209)	1,064	6,380
Provision for loan losses	(424)	—	—	—	—	—	(424)
Provision for reserve for losses	(158)	—	—	—	—	—	(158)
Other non-interest expense	(4,954)	(1,312)	(739)	(2,030)	(3,728)	—	(12,763)
Non-interest expense ⁽⁴⁾	(5,112)	(1,312)	(739)	(2,030)	(3,728)	—	(12,921)
Core earnings before income taxes	12,640	3,284	2,591	13,281	(3,663)	8,835 ⁽⁵⁾	36,968
Income tax (expense)/benefit	(2,654)	(690)	(544)	(2,789)	1,200	(1,855)	(7,332)
Core earnings before preferred stock dividends and attribution of income to non-controlling interest	9,986	2,594	2,047	10,492	(2,463)	6,980 ⁽⁵⁾	29,636
Preferred stock dividends	—	—	—	—	(3,296)	—	(3,296)
Segment core earnings/(losses)	\$ 9,986	\$ 2,594	\$ 2,047	\$ 10,492	\$ (5,759)	\$ 6,980 ⁽⁵⁾	\$ 26,340
Total assets at carrying value	\$ 4,428,172	\$ 2,177,345	\$ 995,068	\$ 8,144,763	\$ 2,881,423	\$ —	\$ 18,626,771
Total on- and off-balance sheet program assets at principal balance	\$ 7,045,397	\$ 2,418,115	\$ 1,669,440	\$ 8,391,885	\$ —	\$ —	\$ 19,524,837

- (1) Excludes the amortization of premiums and discounts on assets consolidated at fair value, originally included in interest income, to reflect core earnings amounts.
- (2) Includes the reclassification of interest income and interest expense from consolidated trusts owned by third parties to guarantee and commitment fees, to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee.
- (3) Includes the reclassification of interest expense related to interest rate swaps not designated as hedges, which are included in "Gains/(losses) on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends and attribution of income to non-controlling interest reconciled to net income; and segment core earnings reconciled to net income attributable to common stockholders.

Core Earnings by Business Segment
For the Six Months Ended June 30, 2019

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
<i>(in thousands)</i>							
Net interest income	\$ 31,079	\$ 8,554	\$ 3,662	\$ 34,572	\$ 5,786	\$ —	\$ 83,653
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(5,007)	(493)	3,567	(828)	(736)	3,497	—
Net effective spread	26,072	8,061	7,229	33,744	5,050	3,497	—
Guarantee and commitment fees ⁽²⁾	9,338	462	721	174	—	(3,779)	6,916
Other income/(expense) ⁽³⁾	668	—	14	—	604	8,220	9,506
Non-interest income/(loss)	10,006	462	735	174	604	4,441	16,422
Provision for loan losses	(314)	—	—	—	—	—	(314)
Release of reserve for losses	287	—	—	—	—	—	287
Other non-interest expense	(9,386)	(2,773)	(1,682)	(4,193)	(7,066)	—	(25,100)
Non-interest expense ⁽⁴⁾	(9,099)	(2,773)	(1,682)	(4,193)	(7,066)	—	(24,813)
Core earnings before income taxes	26,665	5,750	6,282	29,725	(1,412)	7,938 ⁽⁵⁾	74,948
Income tax (expense)/benefit	(5,600)	(1,208)	(1,319)	(6,242)	303	(1,667)	(15,733)
Core earnings before preferred stock dividends and attribution of income to non-controlling interest	21,065	4,542	4,963	23,483	(1,109)	6,271 ⁽⁵⁾	59,215
Preferred stock dividends	—	—	—	—	(7,081)	—	(7,081)
Loss on retirement of preferred stock	—	—	—	—	—	(1,956)	(1,956)
Segment core earnings/(losses)	\$ 21,065	\$ 4,542	\$ 4,963	\$ 23,483	\$ (8,190)	\$ 4,315 ⁽⁵⁾	\$ 50,178
Total assets at carrying value	\$ 4,872,766	\$ 2,198,514	\$ 1,580,979	\$ 8,633,059	\$ 3,452,842	\$ —	\$ 20,738,160
Total on- and off-balance sheet program assets at principal balance	\$ 7,291,352	\$ 2,521,394	\$ 2,155,671	\$ 8,778,318	\$ —	\$ —	\$ 20,746,735

- ⁽¹⁾ Excludes the amortization of premiums and discounts on assets consolidated at fair value, originally included in interest income, to reflect core earnings amounts
- ⁽²⁾ Includes the reclassification of interest income and interest expense from consolidated trusts owned by third parties to guarantee and commitment fees, to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee.
- ⁽³⁾ Includes the reclassification of interest expense related to interest rate swaps not designated as hedges, which are included in "Gains/(losses) on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- ⁽⁴⁾ Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- ⁽⁵⁾ Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends and attribution of income to non-controlling interest reconciled to net income; and segment core earnings reconciled to net income attributable to common stockholders.

Core Earnings by Business Segment
For the Six Months Ended June 30, 2018

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
	(in thousands)						
Net interest income	\$ 30,830	\$ 10,142	\$ 5,850	\$ 36,637	\$ 3,703	\$ —	\$ 87,162
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(4,943)	(1,344)	23	(6,593)	(1,042)	13,899	—
Net effective spread	25,887	8,798	5,873	30,044	2,661	13,899	—
Guarantee and commitment fees ⁽²⁾	8,867	356	851	180	—	(3,274)	6,980
Other income/(expense) ⁽³⁾	899	13	10	—	(349)	(934)	(361)
Non-interest income/(loss)	9,766	369	861	180	(349)	(4,208)	6,619
Release of loan losses	7	—	—	—	—	—	7
Provision for reserve for losses	(179)	—	—	—	—	—	(179)
Other non-interest expense	(9,474)	(2,505)	(1,412)	(3,876)	(7,117)	—	(24,384)
Non-interest expense ⁽⁴⁾	(9,653)	(2,505)	(1,412)	(3,876)	(7,117)	—	(24,563)
Core earnings before income taxes	26,007	6,662	5,322	26,348	(4,805)	9,691 ⁽⁵⁾	69,225
Income tax (expense)/benefit	(5,461)	(1,399)	(1,118)	(5,533)	1,775	(2,034)	(13,770)
Core earnings before preferred stock dividends and attribution of income to non-controlling interest	20,546	5,263	4,204	20,815	(3,030)	7,657 ⁽⁵⁾	55,455
Preferred stock dividends	—	—	—	—	(6,591)	—	(6,591)
Segment core earnings/(losses)	<u>\$ 20,546</u>	<u>\$ 5,263</u>	<u>\$ 4,204</u>	<u>\$ 20,815</u>	<u>\$ (9,621)</u>	<u>\$ 7,657⁽⁵⁾</u>	<u>\$ 48,864</u>
Total assets at carrying value	\$ 4,428,172	\$ 2,177,345	\$ 995,068	\$ 8,144,763	\$ 2,881,423	\$ —	\$ 18,626,771
Total on- and off-balance sheet program assets at principal balance	\$ 7,045,397	\$ 2,418,115	\$ 1,669,440	\$ 8,391,885	\$ —	\$ —	\$ 19,524,837

- (1) Excludes the amortization of premiums and discounts on assets consolidated at fair value, originally included in interest income, to reflect core earnings amounts.
- (2) Includes the reclassification of interest income and interest expense from consolidated trusts owned by third parties to guarantee and commitment fees, to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee.
- (3) Includes the reclassification of interest expense related to interest rate swaps not designated as hedges, which are included in "Gains/(losses) on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends and attribution of income to non-controlling interest reconciled to net income; and segment core earnings reconciled to net income attributable to common stockholders.

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

Financial information included in this report is consolidated to include the accounts of Farmer Mac and its two subsidiaries – Farmer Mac Mortgage Securities Corporation and Farmer Mac II LLC. This discussion and analysis of financial condition and results of operations should be read together with: (1) the interim unaudited consolidated financial statements and the related notes that appear elsewhere in this report; and (2) Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

FORWARD-LOOKING STATEMENTS

In this report, the words "Farmer Mac," "we," "our," and "us" refer to the Federal Agricultural Mortgage Corporation unless otherwise stated or unless the context otherwise requires.

Some statements made in this report, such as in the "Management's Discussion & Analysis of Financial Condition and Results of Operations" section, are "forward-looking statements" under the Private Securities Litigation Reform Act of 1995 about management's current expectations for Farmer Mac's future financial results, business prospects, and business developments. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate, or imply future results, performance, or achievements. These statements typically include terms such as "anticipates," "believes," "expects," "intends," "plans," "potential," "may," "could," "should," and similar phrases. This report includes forward-looking statements addressing Farmer Mac's:

- prospects for earnings;
- prospects for growth in business volume;
- trends in net interest income and net effective spread;
- trends in portfolio credit quality, delinquencies, substandard assets, credit losses, and provisions for losses;
- trends in expenses;
- trends in investment securities;
- prospects for asset impairments and allowance for losses;
- changes in capital position;
- future dividend payments; and
- other business and financial matters.

Management's expectations for Farmer Mac's future necessarily involve assumptions, estimates, and the evaluation of risks and uncertainties. Various factors or events, both known and unknown, could cause Farmer Mac's actual results to differ materially from the expectations as expressed or implied by the forward-looking statements, including the factors discussed under "Risk Factors" in Part I, Item 1A of Farmer Mac's Annual Report on Form 10-K for the fiscal period ended December 31, 2018 filed with the SEC on February 21, 2019, and uncertainties about:

- the availability to Farmer Mac of debt and equity financing and, if available, the reasonableness of rates and terms;
- legislative or regulatory developments that could affect Farmer Mac, its sources of business, or the agricultural or rural utilities industries;
- fluctuations in the fair value of assets held by Farmer Mac and its subsidiaries;

- the rate and direction of development of the secondary market for agricultural mortgage and rural utilities loans, including lender interest in Farmer Mac's products and the secondary market provided by Farmer Mac;
- the general rate of growth in agricultural mortgage and rural utilities indebtedness;
- the effect of economic conditions, including the effects of flooding and other weather-related conditions and fluctuations in agricultural real estate values, on agricultural mortgage lending and borrower repayment capacity;
- the effect of any changes in Farmer Mac's executive leadership;
- developments in the financial markets, including possible investor, analyst, and rating agency reactions to events involving government-sponsored enterprises, including Farmer Mac;
- changes in the level and direction of interest rates, which could, among other things, affect the value of collateral securing Farmer Mac's agricultural mortgage loan assets;
- the degree to which Farmer Mac is exposed to basis risk, which results from fluctuations in Farmer Mac's borrowing costs relative to market indexes; and
- volatility in commodity prices relative to costs of production, changes in U.S. trade policies, or fluctuations in export demand for U.S. agricultural products.

Considering these potential risks and uncertainties, no undue reliance should be placed on any forward-looking statements expressed in this report. Farmer Mac undertakes no obligation to release publicly the results of revisions to any forward-looking statements to reflect new information or any future events or circumstances, except as otherwise required by applicable law or regulation. The information in this report is not necessarily indicative of future results.

Overview

We increased our outstanding business volume by a net \$239.8 million, or 1.2%, to \$20.7 billion during second quarter 2019. This increase was driven by net growth across all four of our lines of business.

Our overall credit quality as of June 30, 2019 decreased modestly compared to December 31, 2018. Our 90-day delinquencies and substandard assets each increased both in dollars and as a percentage of the Farm & Ranch portfolio compared to year-end 2018, though Farmer Mac's 90-day delinquency rate and substandard asset rate each remained below Farmer Mac's historical averages. In second quarter 2019, we recorded a provision for net total losses of \$0.4 million because of an increase in our Farm & Ranch outstanding business volume and slightly lower credit quality. In the first six months of 2019 and 2018 we provided for loan losses of \$27,000 and \$0.2 million, respectively.

On May 13, 2019, Farmer Mac issued \$100.0 million of 5.700% Non-Cumulative Preferred Stock, Series D (the "Series D Preferred Stock"). The dividend rate on the Series D Preferred Stock is a fixed rate of 5.700% per year for the life of the security with dividends payable quarterly on a non-cumulative basis when, as, and if declared by Farmer Mac's Board of Directors.

On June 12, 2019, Farmer Mac used \$75.0 million of the net proceeds from the issuance of the Series D Preferred Stock authorized by Farmer Mac's board of directors to redeem and repurchase all of the aggregate outstanding 6.875% non-cumulative preferred stock, Series B (the "Series B Preferred Stock"). Farmer Mac accrued dividends on both Series B Preferred Stock and Series D Preferred Stock for 30 days during the second quarter and recognized the Series B deferred issuance costs of \$2.0 million. Because of this period of paying dividends on both the Series B and Series D Preferred Stock, Farmer Mac accrued \$3.8 million in preferred stock dividends in second quarter 2019. Beginning in third quarter 2019, we expect our aggregate quarterly preferred stock dividend payments to be \$3.4 million until such time as there is a change in the total amount of preferred stock outstanding. This represents an aggregate quarterly increase of \$0.1 million as compared to first quarter 2019, and \$0.5 million on an annual basis.

The discussion below of Farmer Mac's financial information includes "non-GAAP measures," which are measures of financial performance that are not presented in accordance with GAAP. For more information about the non-GAAP measures Farmer Mac uses, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures."

Net Income and Core Earnings

Our net income attributable to common stockholders for second quarter 2019 was \$28.3 million, compared to \$21.9 million in first quarter 2019 and \$26.3 million in second quarter 2018.

The \$6.4 million sequential increase in net income attributable to common stockholders was primarily due to a \$7.3 million after-tax increase in fair value of undesignated financial derivatives and a \$1.9 million after-tax increase in net interest income. These sequential positive factors were offset in part by the recognition of \$2.0 million in deferred issuance costs for Series B Preferred Stock and the \$0.5 million increase in preferred stock dividends.

The \$2.0 million year-over-year increase in net income attributable to common stockholders was primarily due to a \$5.0 million after-tax increase in fair value on undesignated financial derivatives. This positive factor was partially offset by the recognition of \$2.0 million in deferred issuance costs for Series B

Preferred Stock, the \$0.5 million increase in preferred stock dividends, and a decrease in net interest income of \$0.7 million after tax.

Our non-GAAP core earnings for second quarter 2019 were \$23.6 million, compared to \$22.2 million in first quarter 2019 and \$19.4 million in second quarter 2018.

The \$1.4 million sequential increase in core earnings was primarily due to a \$2.0 million after-tax increase in net effective spread. This positive factor was partially offset by the \$0.5 million increase in preferred stock dividends.

The \$4.2 million year-over-year increase in core earnings was primarily due to a \$4.1 million after-tax increase in net effective spread and a \$0.5 million after-tax decrease in operating expenses. The decrease in operating expenses was primarily due to a decrease in hiring expenses and servicing advances. These positive factors were partially offset by the \$0.5 million increase in preferred stock dividends.

For more information about net income attributable to common stockholders, the composition of core earnings, and a reconciliation of net income attributable to common stockholders to core earnings, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations." For more information about the non-GAAP measures Farmer Mac uses, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures."

Net Interest Income and Net Effective Spread

Net interest income was \$43.1 million for second quarter 2019, compared to \$40.6 million for first quarter 2019 and \$43.9 million in second quarter 2018. The overall net interest yield was 0.87% for second quarter 2019, compared to 0.86% for first quarter 2019 and 0.96% for second quarter 2018.

The \$2.5 million sequential increase in net interest income was primarily due to a \$1.2 million increase related to net business volume growth and a \$1.3 million increase in fair value changes from derivatives and hedged items in fair value hedge accounting relationships. The 1 basis point sequential increase was primarily attributable to a 3 basis point increase in fair value changes from financial derivatives and hedged items that are in fair value hedge accounting relationships, partially offset by a 1 basis point increase in LIBOR-based funding costs.

The \$0.8 million year-over-year decrease in net interest income was primarily due to a \$3.3 million decrease in fair value changes from financial derivatives and hedged items in fair value hedge accounting relationships and a \$2.3 million decrease in income from interest earning assets indexed to LIBOR. These negative factors were partially offset by a \$2.6 million increase in interest income generated from new business volume and the absence of a \$2.0 million premium amortization that occurred in the prior period related to the payoff of an interest-only security. The 9 basis point year-over-year decrease was primarily attributable to a 7 basis point decrease in fair value changes from financial derivatives and hedged items that are in fair value hedge accounting relationships and a 5 basis point decrease in income from interest earning assets indexed to LIBOR. These factors were partially offset by a 4 basis point increase due to the absence of premium amortization that occurred in the prior period related to the payoff of an interest-only security.

Net effective spread, a non-GAAP measure, was \$41.4 million in second quarter 2019, compared to \$38.8 million in first quarter 2019 and \$36.2 million in second quarter 2018. In percentage terms, net effective spread was 0.91% in second quarter 2019, compared to 0.89% in first quarter 2019 and 0.86% in second quarter 2018. Farmer Mac uses net effective spread as an alternative measure to net interest income because management believes it is a useful metric that reflects the economics of the net spread between all the assets owned by Farmer Mac and all related funding, including any associated derivatives, some of which may not be included in net interest income.

The \$2.6 million sequential increase in net effective spread in dollars was primarily due to a \$1.2 million increase in interest income generated from new business volume and a \$0.8 million increase in cash basis interest income and one additional day of interest in the current quarter. In percentage terms, net effective spread increased by 2 basis points primarily due to a 1 basis point increase in cash basis interest income.

The \$5.2 million year-over-year increase in net effective spread in dollars was primarily due to a \$2.6 million increase in net effective spread from new business volume and the absence of the \$2.0 million premium amortization from the payoff of an interest-only security. Net effective spread in percentage terms increased by 5 basis points which was primarily due to the 4 basis point increase from the absence of the premium amortization from the payoff of an interest-only security and the 1 basis point increase in net effective spread from new business volume.

For more information about Farmer Mac's use of net effective spread as a financial measure, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures." For a reconciliation of net interest income to net effective spread, see Table 6 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Business Volume

Our outstanding business volume was \$20.7 billion as of June 30, 2019, a net increase of \$239.8 million from March 31, 2019, after taking into account all new business, maturities, and paydowns on existing assets. This net increase was across all four of our lines of business: \$80.9 million in Rural Utilities, \$75.8 million in Farm & Ranch, \$46.5 million in Institutional Credit, and \$36.6 million in USDA Guarantees. Farmer Mac's outstanding business volume of \$20.7 billion as of June 30, 2019 is a \$1.0 billion increase from \$19.7 billion as of December 31, 2018.

For more information about Farmer Mac's business volume, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Business Volume."

Capital

As of June 30, 2019, our core capital level was \$786.6 million, which was \$191.6 million above the minimum capital level required by our statutory charter. As of December 31, 2018, our core capital level was \$727.6 million, which was \$182.6 million above the minimum capital requirement. The increase in capital above the minimum capital level was due to the Board-authorized issuance of the Series D Preferred Stock and the increase in retained earnings partially offset by growth in our outstanding business volume.

Credit Quality

As of June 30, 2019, Farmer Mac's allowance for losses was \$9.1 million (0.13% of the Farm & Ranch portfolio), compared to \$8.8 million (0.12% of the Farm & Ranch portfolio) as of March 31, 2019 and \$9.2 million (0.13% of the Farm & Ranch portfolio) as of December 31, 2018. The \$0.3 million increase in the total allowance for losses from first quarter 2019 was primarily due to an increase in our Farm & Ranch outstanding business volume and slightly lower credit quality.

As of June 30, 2019, Farmer Mac's substandard assets were \$242.7 million (3.3% of the Farm & Ranch portfolio), compared to \$246.7 million (3.4% of the Farm & Ranch portfolio) as of March 31, 2019 and \$232.7 million (3.2% of the Farm & Ranch portfolio) as of December 31, 2018. The \$10.0 million increase in substandard assets in the first half of 2019 was due to the downgrade of more assets into the substandard category than those that paid off or migrated to a more favorable category. Of the assets that were downgraded into the substandard category, the majority of the loan volume was in the cattle and calves, dairy, and cotton commodity sub-groups.

As of June 30, 2019, Farmer Mac's 90-day delinquencies were \$28.0 million (0.38% of the Farm & Ranch portfolio), compared to \$52.4 million (0.73% of the Farm & Ranch portfolio) as of March 31, 2019 and \$26.9 million (0.37% of the Farm & Ranch portfolio) as of December 31, 2018. The sequential decrease in 90-day delinquencies is consistent with the seasonal pattern of Farmer Mac's 90-day delinquencies fluctuating from quarter to quarter, both in dollars and as a percentage of the outstanding Farm & Ranch portfolio, with higher levels generally observed at the end of the first and third quarters and lower levels generally observed at the end of the second and fourth quarters of each year. As of June 30, 2019, 90-day delinquencies had improved across all major commodity groups compared to March 31, 2019.

For more information about Farmer Mac's credit metrics, including 90-day delinquencies, the total allowance for losses, and substandard assets, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Use of Non-GAAP Measures

In the accompanying analysis of its financial information, Farmer Mac sometimes uses "non-GAAP measures," which are measures of financial performance that are not presented in accordance with GAAP. Specifically, Farmer Mac uses the following non-GAAP measures: "core earnings," "core earnings per share," and "net effective spread." Farmer Mac uses these non-GAAP measures to measure corporate economic performance and develop financial plans because, in management's view, they are useful alternative measures in understanding Farmer Mac's economic performance, transaction economics, and business trends.

The non-GAAP financial measures that Farmer Mac uses may not be comparable to similarly labeled non-GAAP financial measures disclosed by other companies. Farmer Mac's disclosure of these non-GAAP measures is intended to be supplemental in nature and is not meant to be considered in isolation from, as a substitute for, or as more important than, the related financial information prepared in accordance with GAAP.

Core Earnings and Core Earnings Per Share

Core earnings and core earnings per share principally differ from net income attributable to common stockholders and earnings per common share, respectively, by excluding the effects of fair value fluctuations. These fluctuations are not expected to have a cumulative net impact on Farmer Mac's financial condition or results of operations reported in accordance with GAAP if the related financial instruments are held to maturity, as is expected.

Core earnings and core earnings per share also differ from net income attributable to common stockholders and earnings per common share, respectively, by excluding specified infrequent or unusual transactions that we believe are not indicative of future operating results and that may not reflect the trends and economic financial performance of Farmer Mac's core business. For a reconciliation of Farmer Mac's net income attributable to common stockholders to core earnings and of earnings per common share to core earnings per share, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations."

Net Effective Spread

Farmer Mac uses net effective spread to measure the net spread Farmer Mac earns between its interest-earning assets and the related net funding costs of these assets. Net effective spread differs from net interest income and net interest yield because it excludes: (1) the amortization of premiums and discounts on assets consolidated at fair value that are amortized as adjustments to yield in interest income over the contractual or estimated remaining lives of the underlying assets; (2) interest income and interest expense related to consolidated trusts with beneficial interests owned by third parties, which are presented on Farmer Mac's consolidated balance sheets as "Loans held for investment in consolidated trusts, at amortized cost"; and (3) the fair value changes of financial derivatives and the corresponding assets or liabilities designated in a fair value hedge accounting relationship.

Farmer Mac excludes from net effective spread the premiums and discounts on assets consolidated at fair value because they either do not reflect actual cash premiums paid for the assets at acquisition or are not expected to have an economic effect on Farmer Mac's financial performance if the assets are held to maturity, as is expected. Farmer Mac also excludes from net effective spread the interest income and interest expense associated with the consolidated trusts and the average balance of the loans underlying these trusts to reflect management's view that the net interest income Farmer Mac earns on the related Farmer Mac Guaranteed Securities owned by third parties is effectively a guarantee fee. Accordingly, the excluded interest income and interest expense associated with consolidated trusts is reclassified to guarantee and commitment fees in determining Farmer Mac's core earnings. Farmer Mac also excludes from net effective spread the fair value changes of financial derivatives and the corresponding assets or liabilities designated in fair value hedge relationships because they are not expected to have an economic effect on Farmer Mac's financial performance, as we expect to hold the financial derivatives and corresponding hedged items to maturity.

Net effective spread also principally differs from net interest income and net interest yield because it includes the accrual of income and expense related to the contractual amounts due on financial derivatives that are not designated in hedge accounting relationships ("undesignated financial derivatives"). Farmer Mac uses interest rate swaps to manage its interest rate risk exposure by synthetically modifying the interest rate reset or maturity characteristics of certain assets and liabilities. The accrual of the contractual amounts due on interest rate swaps designated in hedge accounting relationships is included as an

adjustment to the yield or cost of the hedged item and is included in net interest income. For undesignated financial derivatives, Farmer Mac records the income or expense related to the accrual of the contractual amounts due in "Gains/(losses) on financial derivatives" on the consolidated statements of operations. However, the accrual of the contractual amounts due for undesignated financial derivatives are included in Farmer Mac's calculation of net effective spread.

Net effective spread also differs from net interest income and net interest yield because it includes the net effects of terminations or net settlements on financial derivatives, which consist of: (1) the net effects of cash settlements on agency forward contracts on the debt of other GSEs and U.S. Treasury security futures that we use as short-term economic hedges on the issuance of debt; and (2) the net effects of initial cash payments that Farmer Mac receives upon the inception of certain swaps. The inclusion of these items in net effective spread is intended to reflect our view of the complete net spread between an asset and all of its related funding, including any associated derivatives, whether or not they are designated in a hedge accounting relationship.

For a reconciliation of net interest income and net interest yield to net effective spread, see Table 6 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Results of Operations

Farmer Mac's net income attributable to common stockholders for the three months ended June 30, 2019 was \$28.3 million (\$2.63 per diluted common share), compared to \$26.3 million (\$2.45 per diluted common share) for the same period in 2018. For the six months ended June 30, 2019, Farmer Mac's net income attributable to common stockholders was \$50.2 million (\$4.66 per diluted common share), compared to \$48.9 million (\$4.55 per diluted common share) for the same period in 2018. Farmer Mac's non-GAAP core earnings for the three months ended June 30, 2019 were \$23.6 million (\$2.20 per diluted common share), compared to \$19.4 million (\$1.80 per diluted common share) for the same period in 2018. Farmer Mac's non-GAAP core earnings for the six months ended June 30, 2019 were \$45.9 million (\$4.26 per diluted common share), compared to \$41.2 million (\$3.84 per diluted common share) for the same period in 2018. For more information about the changes in net income attributable to common stockholders and core earnings, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview—Net Income and Core Earnings."

Reconciliations of Farmer Mac's net income attributable to common stockholders to core earnings and core earnings per share are presented in the following tables along with information about the composition of core earnings:

Table 1

Reconciliation of Net Income Attributable to Common Stockholders to Core Earnings

	For the Three Months Ended	
	June 30, 2019	June 30, 2018
	<i>(in thousands, except per share amounts)</i>	
Net income attributable to common stockholders	\$ 28,304	\$ 26,340
Less reconciling items:		
Gains on undesignated financial derivatives due to fair value changes (see Table 8)	10,485	6,709
(Losses)/gains on hedging activities due to fair value changes	(1,438)	1,687
Unrealized gains on trading securities	61	11
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(139)	196
Net effects of terminations or net settlements on financial derivatives	(592)	232
Issuance costs on the retirement of preferred stock	(1,956)	—
Income tax effect related to reconciling items	(1,759)	(1,855)
Sub-total	4,662	6,980
Core earnings	<u>\$ 23,642</u>	<u>\$ 19,360</u>
Composition of Core Earnings:		
Revenues:		
Net effective spread ⁽¹⁾	\$ 41,355	\$ 36,162
Guarantee and commitment fees ⁽²⁾	5,276	5,171
Other ⁽³⁾	777	111
Total revenues	47,408	41,444
Credit related expense (GAAP):		
Provision for losses	420	582
REO operating expenses	64	—
Gain on sale of REO	—	(34)
Total credit related expense	484	548
Operating expenses (GAAP):		
Compensation and employee benefits	6,770	6,936
General and administrative	4,689	5,202
Regulatory fees	687	625
Total operating expenses	12,146	12,763
Net earnings	34,778	28,133
Income tax expense ⁽⁴⁾	7,351	5,477
Preferred stock dividends (GAAP)	3,785	3,296
Core earnings	<u>\$ 23,642</u>	<u>\$ 19,360</u>
Core earnings per share:		
Basic	\$ 2.21	\$ 1.82
Diluted	2.20	1.80
Weighted-average shares:		
Basic	10,698	10,658
Diluted	10,770	10,742

- (1) Net effective spread is a non-GAAP measure. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread" for an explanation of net effective spread. See Table 6 for a reconciliation of net interest income to net effective spread.
- (2) Includes interest income and interest expense related to consolidated trusts owned by third parties reclassified from net interest income to guarantee and commitment fees to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee on the consolidated Farmer Mac Guaranteed Securities.
- (3) Reflects reconciling adjustments for the reclassification to exclude expenses related to interest rate swaps not designated as hedges and terminations or net settlements on financial derivatives, and reconciling adjustments to exclude fair value adjustments on financial derivatives and trading assets and the recognition of deferred gains over the estimated lives of certain Farmer Mac Guaranteed Securities and USDA Securities.
- (4) Includes the tax impact of non-GAAP reconciling items between net income attributable to common stockholders and core earnings.

Reconciliation of Net Income Attributable to Common Stockholders to Core Earnings

	For the Six Months Ended	
	June 30, 2019	June 30, 2018
	<i>(in thousands, except per share amounts)</i>	
Net income attributable to common stockholders	\$ 50,178	\$ 48,864
Less reconciling items:		
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 8)	12,725	4,430
(Losses)/gains on hedging activities due to fair value changes	(4,255)	4,251
Unrealized gains on trading securities	105	27
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(155)	(490)
Net effects of terminations or net settlements on financial derivatives	(482)	1,474
Issuance costs on the retirement of preferred stock	(1,956)	—
Income tax effect related to reconciling items	(1,667)	(2,035)
Sub-total	4,315	7,657
Core earnings	\$ 45,863	\$ 41,207
Composition of Core Earnings:		
Revenues:		
Net effective spread ⁽¹⁾	\$ 80,156	\$ 73,263
Guarantee and commitment fees ⁽²⁾	10,695	10,254
Other ⁽³⁾	1,286	539
Total revenues	92,137	84,056
Credit related expense (GAAP):		
Provision for losses	27	172
REO operating expenses	64	16
Gain on sale of REO	—	(34)
Total credit related expense	91	154
Operating expenses (GAAP):		
Compensation and employee benefits	14,376	13,590
General and administrative	9,285	9,528
Regulatory fees	1,375	1,250
Total operating expenses	25,036	24,368
Net earnings	67,010	59,534
Income tax expense ⁽⁴⁾	14,066	11,736
Preferred stock dividends (GAAP)	7,081	6,591
Core earnings	\$ 45,863	\$ 41,207
Core earnings per share:		
Basic	\$ 4.29	\$ 3.87
Diluted	4.26	3.84
Weighted-average shares:		
Basic	10,684	10,640
Diluted	10,774	10,742

⁽¹⁾ Net effective spread is a non-GAAP measure. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread" for an explanation of net effective spread. See Table 6 for a reconciliation of net interest income to net effective spread.

- (2) Includes interest income and interest expense related to consolidated trusts owned by third parties reclassified from net interest income to guarantee and commitment fees to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee on the consolidated Farmer Mac Guaranteed Securities.
- (3) Reflects reconciling adjustments for the reclassification to exclude expenses related to interest rate swaps not designated as hedges and terminations or net settlements on financial derivatives, and reconciling adjustments to exclude fair value adjustments on financial derivatives and trading assets and the recognition of deferred gains over the estimated lives of certain Farmer Mac Guaranteed Securities and USDA Securities.
- (4) Includes the tax impact of non-GAAP reconciling items between net income attributable to common stockholders and core earnings.

Table 2

Reconciliation of GAAP Basic Earnings Per Share to Core Earnings - Basic Earnings Per Share

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
<i>(in thousands, except per share amounts)</i>				
GAAP - Basic EPS	\$ 2.65	\$ 2.47	\$ 4.70	\$ 4.59
Less reconciling items:				
Gains on undesignated financial derivatives due to fair value changes (see Table 8)	0.98	0.63	1.19	0.42
(Losses)/gains on hedging activities due to fair value changes	(0.13)	0.16	(0.39)	0.40
Unrealized gains on trading securities	0.01	—	0.01	—
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.01)	0.02	(0.01)	(0.05)
Net effects of terminations or net settlements on financial derivatives	(0.06)	0.02	(0.05)	0.14
Issuance costs on the retirement of preferred stock	(0.18)	—	(0.18)	—
Income tax effect related to reconciling items	(0.17)	(0.18)	(0.16)	(0.19)
Sub-total	0.44	0.65	0.41	0.72
Core Earnings - Basic EPS	\$ 2.21	\$ 1.82	\$ 4.29	\$ 3.87
Shares used in per share calculation (GAAP and Core Earnings)	10,698	10,658	10,684	10,640

Reconciliation of GAAP Diluted Earnings Per Share to Core Earnings - Diluted Earnings Per Share

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
<i>(in thousands, except per share amounts)</i>				
GAAP - Diluted EPS	\$ 2.63	\$ 2.45	\$ 4.66	\$ 4.55
Less reconciling items:				
Gains on undesignated financial derivatives due to fair value changes (see Table 8)	0.96	0.62	1.17	0.41
(Losses)/gains on hedging activities due to fair value changes	(0.14)	0.16	(0.40)	0.40
Unrealized gains on trading securities	0.01	—	0.01	—
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.01)	0.02	(0.01)	(0.05)
Net effects of terminations or net settlements on financial derivatives	(0.05)	0.02	(0.04)	0.14
Issuance costs on the retirement of preferred stock	(0.18)	—	(0.18)	—
Income tax effect related to reconciling items	(0.16)	(0.17)	(0.15)	(0.19)
Sub-total	0.43	0.65	0.40	0.71
Core Earnings - Diluted EPS	\$ 2.20	\$ 1.80	\$ 4.26	\$ 3.84
Shares used in per share calculation (GAAP and Core Earnings)	10,770	10,742	10,774	10,742

The non-GAAP reconciling items between net income attributable to common stockholders and core earnings are:

1. Gains/(losses) on financial derivatives due to fair value changes are presented by two reconciling items in Table 1 above: (1) Gains/(losses) on undesignated financial derivatives due to fair value changes; and (2) (Losses)/gains on hedging activities due to fair value changes. The table below calculates the non-GAAP reconciling item for (losses)/gains on hedging activities due to fair value changes:

Table 3

Non-GAAP Reconciling Items for (Losses)/Gains on Hedging Activities due to Fair Value Changes				
	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
	<i>(in thousands)</i>			
(Losses)/gains due to fair value changes (see Table 4.2)	\$ (1,428)	\$ 1,862	\$ (4,128)	\$ 4,701
Initial cash payment received at inception of swap	(10)	(175)	(127)	(449)
(Losses)/gains on hedging activities due to fair value changes	<u>\$ (1,438)</u>	<u>\$ 1,687</u>	<u>\$ (4,255)</u>	<u>\$ 4,252</u>

2. Unrealized gains on trading securities. The unrealized gains/(losses) on trading securities are reported on Farmer Mac's consolidated statements of operations, which represent changes during the period in fair values for trading assets remaining on Farmer Mac's balance sheet as of the end of the reporting period.

3. Amortization of premiums/discounts and deferred gains on assets consolidated at fair value. The amount of this non-GAAP reconciling item is the recorded amount of premium, discount, or deferred gain amortization during the reporting period on those assets for which the premium, discount, or deferred gain was based on the application of an accounting principle (e.g., consolidation of variable interest entities) rather than on a cash transaction (e.g., a purchase price premium or discount).

4. The net effects of terminations or net settlements on financial derivatives. These terminations or net settlements relate to:

- Forward contracts on the debt of other GSEs and futures contracts on U.S. Treasury securities. These contracts are used as a short-term economic hedge of the issuance of debt. For GAAP purposes, realized gains or losses on settlements of these contracts are reported in the consolidated statements of operations in the period in which they occur. For core earnings purposes, these realized gains or losses are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years.
- Initial cash payments received by Farmer Mac upon the inception of certain swaps. When there is no direct payment arrangement between a swap dealer counterparty and a debt dealer issuing Farmer Mac's medium-term notes for a particular transaction, Farmer Mac may receive an initial cash payment from the swap dealer at the inception of the swap to offset dollar-for-dollar the amount of the discount on the associated hedged debt. For GAAP purposes, changes in fair value of the swaps are recognized in "Gains on financial derivatives," while the economically offsetting discount on the associated hedged debt is amortized over the term of the debt as an adjustment to its yield. For core earnings purposes, these initial cash payments are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years.

5. The recognition of deferred issuance costs on the retirement of the Series B Preferred Stock in second quarter 2019 has been excluded from core earnings because it is not a frequently occurring transaction, nor

is it indicative of future operating results. This is consistent with Farmer Mac's previous treatment of deferred issuance costs associated with the retirement of preferred stock.

The following sections provide more detail about specific components of Farmer Mac's results of operations.

Net Interest Income. The following table provides information about interest-earning assets and funding for the six months ended June 30, 2019 and 2018. The average balance of non-accruing loans is included in the average balance of loans, Farmer Mac Guaranteed Securities, and USDA Securities presented, though the related income is accounted for on a cash basis. Therefore, as the average balance of non-accruing loans and the income received increases or decreases, the net interest income and yield will fluctuate accordingly. The average balance of loans in consolidated trusts with beneficial interests owned by third parties is disclosed in the net effect of consolidated trusts and is not included in the average balances of interest-earning assets and interest-bearing liabilities. The interest income and expense associated with these trusts are shown in the net effect of consolidated trusts.

Table 4

	For the Six Months Ended					
	June 30, 2019			June 30, 2018		
	Average Balance	Income/Expense	Average Rate	Average Balance	Income/Expense	Average Rate
	(dollars in thousands)					
Interest-earning assets:						
Cash and investments	\$ 2,894,225	\$ 38,863	2.69%	\$ 2,749,770	\$ 23,558	1.71%
Loans, Farmer Mac Guaranteed Securities and USDA Securities ⁽¹⁾	14,853,973	251,338	3.38%	13,832,070	205,259	2.97%
Total interest-earning assets	17,748,198	290,201	3.27%	16,581,840	228,817	2.76%
Funding:						
Notes payable due within one year	3,667,842	44,848	2.45%	3,726,865	29,457	1.58%
Notes payable due after one year ⁽²⁾	13,421,483	165,479	2.47%	12,139,318	115,472	1.90%
Total interest-bearing liabilities ⁽³⁾	17,089,325	210,327	2.46%	15,866,183	144,929	1.83%
Net non-interest-bearing funding	658,873	—		715,657	—	
Total funding	17,748,198	210,327	2.37%	16,581,840	144,929	1.75%
Net interest income/yield prior to consolidation of certain trusts	17,748,198	79,874	0.90%	16,581,840	83,888	1.01%
Net effect of consolidated trusts ⁽⁴⁾	1,553,815	3,779	0.49%	1,411,749	3,274	0.46%
Net interest income/yield	\$ 19,302,013	\$ 83,653	0.87%	\$ 17,993,589	\$ 87,162	0.97%

⁽¹⁾ Excludes interest income of \$30.4 million and \$26.4 million in the first half of 2019 and 2018, respectively, related to consolidated trusts with beneficial interests owned by third parties.

⁽²⁾ Includes current portion of long-term notes.

⁽³⁾ Excludes interest expense of \$26.7 million and \$23.1 million in the first half of 2019 and 2018, respectively, related to consolidated trusts with beneficial interests owned by third parties.

⁽⁴⁾ Includes the effect of consolidated trusts with beneficial interests owned by third parties.

For the first six months of 2019 compared to the same period in 2018, the \$3.5 million decrease in net interest income was primarily due to a \$8.8 million net decrease in fair value changes from financial derivatives and hedged items in fair value hedge accounting relationships and a \$2.0 million decrease in income from interest earning assets indexed to LIBOR. These negative factors were partially offset by a \$4.7 million increase in interest income generated from new business volume and the absence of a \$2.0 million premium amortization that occurred in the prior period related to the payoff of an interest-only security. The 10 basis point year-over-year decrease was primarily attributable to a 9 basis point decrease in fair value changes from financial derivatives and hedged items that are in fair value hedge accounting relationships and a 4 basis point decrease in income from interest earning assets indexed to LIBOR;

partially offset by a 2 basis point increase due to the absence of premium amortization that occurred in the prior period related to the payoff of an interest-only security.

The following table sets forth information about changes in the components of Farmer Mac's net interest income prior to consolidation of certain trusts for the periods indicated. For each category, information is provided on changes attributable to changes in volume (change in volume multiplied by old rate) and changes in rate (change in rate multiplied by old volume). Combined rate/volume variances, the third element of the calculation, are allocated based on their relative size.

Table 5

	For the Six Months Ended June 30, 2019 Compared to Same Period in 2018		
	Increase/(Decrease) Due to		
	Rate	Volume	Total
	(in thousands)		
Income from interest-earning assets:			
Cash and investments	\$ 14,008	\$ 1,297	\$ 15,305
Loans, Farmer Mac Guaranteed Securities and USDA Securities	30,181	15,898	46,079
Total	44,189	17,195	61,384
Expense from other interest-bearing liabilities	53,520	11,878	65,398
Change in net interest income prior to consolidation of certain trusts ⁽¹⁾	\$ (9,331)	\$ 5,317	\$ (4,014)

⁽¹⁾ Excludes the effect of debt in consolidated trusts with beneficial interests owned by third parties.

The following table presents a reconciliation of net interest income and net interest yield to net effective spread. Net effective spread is measured by: including (1) expenses related to undesignated financial derivatives, which consists of income or expense related to contractual amounts due on financial derivatives not designated in hedge relationships (the income or expense related to financial derivatives designated in hedge relationships is already included in net interest income), and (2) the amortization of losses due to terminations or net settlements of financial derivatives; and excluding (3) the amortization of premiums and discounts on assets consolidated at fair value, (4) the net effects of consolidated trusts with beneficial interests owned by third parties, and (5) the fair value changes of financial derivatives and corresponding financial assets or liabilities in fair value hedge relationships. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread" for more information about the explanation of net effective spread.

Table 6

	For the Three Months Ended				For the Six Months Ended			
	June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018	
	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield
	<i>(dollars in thousands)</i>							
Net interest income/yield	\$43,054	0.87 %	\$43,933	0.96 %	\$83,653	0.87 %	\$87,162	0.97 %
Net effects of consolidated trusts	(1,873)	0.03 %	(1,690)	0.04 %	(3,778)	0.03 %	(3,274)	0.04 %
Expense related to undesignated financial derivatives	(1,557)	(0.03)%	(3,998)	(0.09)%	(4,102)	(0.05)%	(6,299)	(0.08)%
Amortization of premiums/discounts on assets consolidated at fair value	289	0.01 %	(188)	(0.01)%	311	— %	506	0.01 %
Amortization of losses due to terminations or net settlements on financial derivatives	14	— %	(33)	— %	(56)	— %	(131)	— %
Fair value changes on fair value hedge relationships	1,428	0.03 %	(1,862)	(0.04)%	4,128	0.05 %	(4,701)	(0.06)%
Net effective spread	<u>\$41,355</u>	<u>0.91 %</u>	<u>\$36,162</u>	<u>0.86 %</u>	<u>\$80,156</u>	<u>0.90 %</u>	<u>\$73,263</u>	<u>0.88 %</u>

For the three months ended June 30, 2019 compared to the same period in 2018, the \$5.2 million increase in net effective spread in dollars was primarily due to a \$2.6 million increase in net effective spread from new business volume and the absence of a \$2.0 million premium amortization that occurred in the prior period related to the payoff of an interest-only security. Net effective spread in percentage terms increased by 5 basis points which was primarily due to the 4 basis point increase from the absence of the premium amortization that occurred in the prior period from the payoff of an interest-only security and the 1 basis point increase in net effective spread from new business volume.

For the first six months of 2019 compared to the same period in 2018, the \$6.9 million increase in net effective spread in dollars was primarily due to a \$4.7 million increase in interest income generated from new business volume and the absence of a \$2.0 million premium amortization that occurred in the prior period related to the payoff of an interest-only security. The 2 basis point year-over-year increase was primarily due to the absence of premium amortization that occurred in the prior period related to the payoff of an interest-only security.

See Note 9 to the consolidated financial statements for more information about net interest income and net effective spread from Farmer Mac's individual business segments. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Supplemental Information" for quarterly net effective spread by line of business.

Provision for and Release of Allowance for Loan Losses and Reserve for Losses. The following table summarizes the components of Farmer Mac's total allowance for losses for the three and six months ended June 30, 2019 and 2018:

Table 7

	As of June 30, 2019			As of June 30, 2018		
	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses
	(in thousands)					
For the Three Months Ended:						
Beginning Balance	\$ 6,753	\$ 2,038	\$ 8,791	\$ 6,365	\$ 2,091	\$ 8,456
Provision for/(release of) losses	578	(158)	420	424	158	582
Charge-offs	(67)	—	(67)	—	—	—
Ending Balance	<u>\$ 7,264</u>	<u>\$ 1,880</u>	<u>\$ 9,144</u>	<u>\$ 6,789</u>	<u>\$ 2,249</u>	<u>\$ 9,038</u>
For the Six Months Ended:						
Beginning Balance	\$ 7,017	\$ 2,167	\$ 9,184	\$ 6,796	\$ 2,070	\$ 8,866
Provision for/(release of) losses	314	(287)	27	(7)	179	172
Charge-offs	(67)	—	(67)	—	—	—
Ending Balance	<u>\$ 7,264</u>	<u>\$ 1,880</u>	<u>\$ 9,144</u>	<u>\$ 6,789</u>	<u>\$ 2,249</u>	<u>\$ 9,038</u>

The provision for the allowance for loan losses recorded during the three months ended June 30, 2019 was attributable to an increase in the general allowance due to net volume growth in on-balance sheet Farm & Ranch loans and a slight decrease in the portfolio credit quality of loan purchases. The provision for the allowance for loan losses during the six months ended June 30, 2019 of \$27,000 was because the portfolio growth and the slight decrease in credit quality experienced in second quarter 2019 offset the first quarter 2019 release from the allowance for loan losses. The release from the reserve for losses recorded during the three and six months ended June 30, 2019 was primarily attributable to a net volume decrease in off-balance sheet Farm & Ranch LTSPCs and a slight improvement in off-balance sheet portfolio credit quality.

As of June 30, 2019, Farmer Mac individually evaluated \$51.4 million of the \$172.4 million of recorded investment in impaired assets for collateral shortfalls against updated appraised values, other updated collateral valuations, or discounted values. For the remaining \$121.0 million of impaired assets for which updated valuations were not available, Farmer Mac evaluated them in the aggregate in consideration of their similar risk characteristics and historical statistics. Farmer Mac recorded specific allowances of \$3.8 million for undercollateralized assets as of June 30, 2019. Farmer Mac's general allowance was \$5.3 million as of June 30, 2019.

The provision for the allowance for loan losses recorded during the three months ended June 30, 2018 were attributable to (1) a modest decrease in overall portfolio credit quality and (2) an increase in the general allowance due to net volume growth in both on and off-balance sheet Farm & Ranch loans, primarily related to new agricultural storage and processing loans purchased during second quarter 2018. The net release of the allowance for loan losses recorded during the six months ended June 30, 2018 were attributable to (1) paydowns or payoffs of loans with an existing allowance in amounts that exceeded the increase in the allowance associated with net volume growth in Farm & Ranch loans recorded during the six months ended June 30, 2018 and (2) paydowns on existing substandard loans or an improvement in the risk ratings of certain substandard loans, which resulted in a decrease in the amount of substandard assets

rated in the lowest credit quality tier. The net provision for the reserve for losses recorded during the three and six months ended June 30, 2018 was primarily attributable to a net increase in the balance of loans underlying LTSPCs.

See Note 5 to the consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Guarantee and Commitment Fees. Guarantee and commitment fees, which compensate Farmer Mac for assuming the credit risk on loans underlying off-balance sheet Farmer Mac Guaranteed Securities and LTSPCs, were \$3.4 million and \$6.9 million for the three and six months ended June 30, 2019, compared to \$3.5 million and \$7.0 million for the same periods in 2018, respectively.

In Farmer Mac's presentation of core earnings, guarantee and commitment fees include interest income and interest expense related to consolidated trusts owned by third parties to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee on the consolidated Farmer Mac Guaranteed Securities. As adjusted for the core earnings presentation, guarantee and commitment fees were \$5.3 million and \$10.7 million for the three and six months ended June 30, 2019, compared to \$5.2 million and \$10.3 million for the same periods in 2018, respectively.

For more information about net income attributable to common stockholders, the composition of core earnings, and a reconciliation of net income attributable to common stockholders to core earnings, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations." For more information about the non-GAAP measures Farmer Mac uses, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures."

Gains/(losses) on financial derivatives. The components of gains and losses on financial derivatives for the three and six months ended June 30, 2019 and 2018 are summarized in the following table:

Table 8

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
	<i>(in thousands)</i>			
Gains/(losses) on financial derivatives:				
Gains due to fair value changes	\$ 10,485	\$ 6,709	\$ 12,725	\$ 4,429
Accrual of contractual payments	(1,557)	(3,998)	(4,101)	(6,299)
(Losses)/gains due to terminations or net settlements	(15)	(177)	(71)	554
Gains/(losses) on financial derivatives	\$ 8,913	\$ 2,534	\$ 8,553	\$ (1,316)

These changes in fair value are primarily the result of fluctuations in long-term interest rates. The accrual of periodic cash settlements for interest paid or received from Farmer Mac's interest rate swaps that are not designated in hedge accounting relationships is shown as expense related to financial derivatives. Payments or receipts to terminate derivative positions or net cash settled forward sales contracts on the debt of other GSEs and U.S. Treasury security futures that are not designated in hedge accounting relationships and initial cash payments received upon the inception of certain swaps not designated in hedge accounting relationships are included in "(Losses)/gains due to terminations or net settlements" in the table above. For swaps not designated in a hedge accounting relationship, when there is no direct

payment arrangement between a swap dealer counterparty and a debt dealer issuing Farmer Mac's medium-term notes for a particular transaction, Farmer Mac may receive an initial cash payment from the swap dealer at the inception of the swap to offset dollar-for-dollar the amount of the discount on the associated hedged debt. Changes in the fair value of these swaps are recognized immediately in "Gains/(losses) on financial derivatives," while the offsetting discount on the hedged debt is amortized over the term of the debt as an adjustment to its yield. The amounts of initial cash payments received by Farmer Mac vary depending on the number of the aforementioned type of swaps it executes during a quarter.

Other Income. Other income totaled \$0.4 million and \$0.8 million for the three and six months ended June 30, 2019, respectively, compared to \$0.3 million and \$0.9 million for the same periods in 2018, respectively. Other income includes late fees of \$0.2 million and \$0.6 million on Farm & Ranch loans, for the three and six months ended June 30, 2019, compared to \$0.3 million and \$0.8 million for the same periods in 2018, respectively.

Compensation and Employee Benefits. Compensation and employee benefits were \$6.8 million and \$14.4 million for the three and six months ended June 30, 2019, respectively, compared to \$6.9 million and \$13.6 million for the same periods in 2018, respectively. The increase in compensation and employee benefits in the six months ended June 30, 2019 compared to the same period in 2018 was due to an overall increase in headcount and related employee health insurance costs.

General and Administrative Expenses. G&A expenses were \$4.7 million and \$9.3 million for the three and six months ended June 30, 2019, respectively, compared to \$5.2 million and \$9.5 million for the same periods in 2018, respectively. The decrease in G&A expenses for the three months ended June 30, 2019 compared to the same period in 2018 was primarily due to decreases in executive hiring expenses of \$0.3 million and in servicing advances of \$0.3 million. The decrease in G&A expenses for the six months ended June 30, 2019 compared to the same period in 2018 was primarily due to a decrease in legal fees of \$0.4 million.

Regulatory Fees. Regulatory fees, which consist of the fees paid to the Farm Credit Administration ("FCA"), an independent agency in the executive branch of the United States government that regulates Farmer Mac, were \$0.7 million and \$1.4 million for the three and six months ended June 30, 2019, respectively, compared to \$0.6 million and \$1.3 million for the same periods in 2018, respectively. FCA has advised Farmer Mac that its estimated fees for the federal government fiscal year ending September 30, 2019 would increase to \$2.75 million (\$0.688 million per federal government fiscal quarter). After the end of a federal government fiscal year, FCA may revise its prior year estimated assessments to reflect actual costs incurred, and has issued both additional assessments and refunds in the past.

Income Tax Expense. Income tax expense was \$9.1 million and \$15.7 million for the three and six months ended June 30, 2019, respectively, compared to \$7.3 million and \$13.8 million for the same periods in 2018, respectively. The effective federal tax rate for the first half of 2019 closely approximates the 21.0% statutory federal corporate tax rate. For the first half of 2018, the effective tax rate was 20.0% due to tax benefits associated with stock compensation exercises.

Business Volume. Our outstanding business volume was \$20.7 billion as of June 30, 2019, a net increase of \$239.8 million from March 31, 2019, after taking into account all new business, maturities, and paydowns on existing assets. This increase was driven by net growth of \$81.0 million in Rural Utilities, \$75.8 million in Farm & Ranch, \$46.5 million in Institutional Credit, and \$36.6 million in USDA Guarantees.

The net growth in our Rural Utilities line of business was primarily due to the purchase of four loans, the largest of which was \$50.0 million. These purchases were partially offset by repayments of \$7.0 million during the quarter.

The \$75.8 million net increase in our Farm & Ranch line of business was comprised of a \$143.4 million net increase in outstanding loan purchase volume, partially offset by a \$67.6 million net decrease in loans under LTSPCs. Based on our analysis of bank and Farm Credit System call report data, the growth rate of the overall agricultural mortgage market decreased in 2018. Nevertheless, our net growth of 8.6% in Farm & Ranch loan purchases over the twelve months ended June 30, 2019 compared favorably to the 4.7% net growth of the overall agricultural mortgage loan market over the twelve months ended March 31, 2019. Although our gross purchase volume slowed during the first half of 2019, the loan prepayment rate during that period was among the lowest we have ever experienced.

Our Institutional Credit line of business grew during second quarter 2019 through net growth of \$25.0 million in AgVantage securities from one of our large counterparties and net growth of \$45.7 million from two of our smaller financial fund counterparties.

Our USDA Guarantees line of business grew by \$36.6 million in second quarter 2019, compared to net growth of \$26.4 million in second quarter 2018. This increase in growth reflects increased loan volume being processed through the USDA since the government shut-down during January 2019.

For more information about potential growth opportunities in Farmer Mac's lines of business, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Outlook" in this report.

The following table sets forth gross purchase volumes of non-delinquent eligible loans, new loans added under LTSPCs, and new guarantees during the periods indicated in the Farm & Ranch, USDA Guarantees, and Rural Utilities lines of business, as well as purchases of AgVantage securities in the Institutional Credit line of business. The table also sets forth the net growth or decrease under Farmer Mac's lines of business, after maturities, principal paydowns, and sales:

Table 9

New Business Volume – Farmer Mac Loan Purchases, Guarantees, LTSPCs, and AgVantage Securities								
	For the Three Months Ended				For the Six Months Ended			
	June 30, 2019		June 30, 2018		June 30, 2019		June 30, 2018	
	Gross volume	Net growth/(decrease)	Gross Volume	Net growth/(decrease)	Gross volume	Net growth/(decrease)	Gross Volume	Net growth/(decrease)
<i>(in thousands)</i>								
Farm & Ranch:								
Loans	\$ 248,152	\$ 143,361	\$ 224,101	\$ 104,600	\$ 451,308	\$ 165,936	\$ 483,212	\$ 180,226
LTSPCs	57,321	(67,594)	126,066	8,796	148,536	(108,556)	285,131	(2,414)
USDA Guarantees:								
USDA Securities	88,916	14,392	84,946	(14,841)	127,212	(25,252)	174,178	(5,534)
Farmer Mac Guaranteed USDA Securities	29,419	22,223	45,014	41,217	48,346	31,026	79,307	71,435
Rural Utilities:								
Loans	105,000	98,049	—	(51,659)	651,198	588,307	8,645	(84,473)
LTSPCs	—	(17,092)	—	(8,699)	—	(24,752)	—	(128,721)
Institutional Credit:								
AgVantage securities	659,447	46,483	825,203	65,980	1,484,864	395,501	1,638,540	487,007
Total purchases, guarantees, LTSPCs, and AgVantage securities	<u>\$1,188,255</u>	<u>\$ 239,822</u>	<u>\$1,305,330</u>	<u>\$ 145,394</u>	<u>\$2,911,464</u>	<u>\$1,022,210</u>	<u>\$2,669,013</u>	<u>\$ 517,526</u>

During the first half of 2019, we purchased 971 Farm & Ranch term loans and revolving line of credit draws. These purchases consisted of 361 term loans with an average unpaid principal balance of \$923,000 and 610 revolving line of credit draws with an average unpaid principal balance of \$195,000. During the first half of 2018, we purchased 1,071 Farm & Ranch term loans and revolving line of credit draws. These purchases consisted of 464 term loans with an average unpaid principal balance of \$907,000 and 607 revolving line of credit draws with an average unpaid principal balance of \$104,000.

Farmer Mac either retains the loans it purchases or securitizes them and retains or sells Farmer Mac Guaranteed Securities backed by those loans. The weighted-average age of the Farm & Ranch non-delinquent eligible loans purchased and retained (excluding the purchases of defaulted loans) during both second quarter 2019 and 2018 was less than one year. Of those loans, 63% and 55% had principal amortization periods longer than the maturity date, resulting in balloon payments at maturity, with a weighted-average remaining term to maturity of 15.0 years and 17.7 years, respectively.

During second quarter 2019 and 2018, Farmer Mac securitized some of the Farm & Ranch loans it had purchased and sold the resulting Farmer Mac Guaranteed Securities, as shown below. During the three and six months ended June 30, 2019 and 2018, Farmer Mac realized no gains or losses from the sale of Farmer Mac Guaranteed Securities or USDA Securities. Farmer Mac consolidates these loans and presents them as "Loans held for investment in consolidated trusts, at amortized cost" on the consolidated balance sheets. For the three and six months ended June 30, 2019, none and \$63.1 million, respectively,

of Farmer Mac Guaranteed Securities were sold to a related party to Farmer Mac by virtue of its owning more than 10% of Farmer Mac's Class A voting common stock, compared to none and \$29.8 million for the same periods in 2018, respectively.

The following table sets forth information about the Farmer Mac Guaranteed Securities issued during the periods indicated:

Table 10

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
	<i>(in thousands)</i>			
Loans securitized and sold as Farm & Ranch Guaranteed Securities	\$ 20,224	\$ 20,074	\$ 118,004	\$ 116,982
Farmer Mac Guaranteed USDA Securities	29,419	45,014	48,347	79,307
AgVantage securities	659,447	825,203	1,484,864	1,638,540
Total Farmer Mac Guaranteed Securities issuances	<u>\$ 709,090</u>	<u>\$ 890,291</u>	<u>\$ 1,651,215</u>	<u>\$ 1,834,829</u>

The following table sets forth information about outstanding volume in each of Farmer Mac's four lines of business as of the dates indicated:

Table 11

Lines of Business - Outstanding Business Volume		
	As of June 30, 2019	As of December 31, 2018
	<i>(in thousands)</i>	
Farm & Ranch:		
Loans	\$ 3,191,035	\$ 3,071,222
Loans held in trusts:		
Beneficial interests owned by third party investors	1,563,223	1,517,101
LTSPCs	2,416,030	2,509,787
Guaranteed Securities	121,064	135,862
USDA Guarantees:		
USDA Securities	2,089,101	2,120,553
Farmer Mac Guaranteed USDA Securities	432,293	395,067
Rural Utilities:		
Loans	1,527,150	938,843
LTSPCs ⁽¹⁾	628,521	653,272
Institutional Credit		
AgVantage Securities	8,478,318	8,082,817
Revolving floating rate AgVantage facility ⁽²⁾	300,000	300,000
Total	<u>\$ 20,746,735</u>	<u>\$ 19,724,524</u>

⁽¹⁾ As of June 30, 2019 and December 31, 2018, includes \$20.0 million and \$17.0 million, respectively, related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee.

⁽²⁾ During the first half of both 2019 and 2018, \$100.0 million of this facility was drawn and subsequently repaid. Farmer Mac receives a fixed fee based on the full dollar amount of the facility. If the counterparty draws on the facility, the amounts drawn will be in the form of AgVantage securities, and Farmer Mac will earn interest income on those securities.

The following table summarizes by maturity date the scheduled principal amortization of loans held, loans underlying off-balance sheet Farmer Mac Guaranteed Securities (excluding AgVantage securities) and LTSPCs, USDA Securities, and Farmer Mac Guaranteed USDA Securities as of June 30, 2019:

Table 12

Schedule of Principal Amortization as of June 30, 2019

	Loans Held	Loans Underlying Off-Balance Sheet Farmer Mac Guaranteed Securities and LTSPCs	USDA Securities and Farmer Mac Guaranteed USDA Securities	Total
	<i>(in thousands)</i>			
2019	\$ 125,483	\$ 113,910	\$ 48,055	\$ 287,448
2020	284,922	242,538	115,977	643,437
2021	294,115	272,934	111,310	678,359
2022	257,100	209,608	115,287	581,995
2023	270,102	196,436	118,765	585,303
Thereafter	5,049,686	2,130,189	2,012,000	9,191,875
Total	<u>\$ 6,281,408</u>	<u>\$ 3,165,615</u>	<u>\$ 2,521,394</u>	<u>\$ 11,968,417</u>

Of the \$20.7 billion outstanding principal balance of volume included in Farmer Mac's four lines of business as of June 30, 2019, \$8.8 billion were AgVantage securities included in the Institutional Credit line of business. Unlike business volume in the form of purchased loans, USDA Securities, and loans underlying LTSPCs and non-AgVantage Farmer Mac Guaranteed Securities, most AgVantage securities do not require periodic payments of principal based on amortization schedules and instead have fixed maturity dates when the secured general obligation is due. The following table summarizes by maturity date the outstanding principal amount of both on- and off-balance sheet AgVantage securities as of June 30, 2019:

Table 13

AgVantage Balances by Year of Maturity

	As of June 30, 2019
	<i>(in thousands)</i>
2019	\$ 509,219
2020	1,336,760
2021	1,605,084
2022 ⁽¹⁾	1,595,909
2023	799,143
Thereafter ⁽²⁾	2,932,203
Total	<u>\$ 8,778,318</u>

⁽¹⁾ Includes the expiration of the \$300.0 million revolving floating rate AgVantage facility.

⁽²⁾ Includes various maturities ranging from 2024 to 2044.

The weighted-average remaining maturity of the outstanding AgVantage securities shown in the table above was 5.4 years as of June 30, 2019.

Outlook

Farmer Mac continues to provide a stable source of liquidity, capital, and risk management tools as the secondary market that helps meet the financing needs of rural America. While the pace of Farmer Mac's growth will depend on the capital and liquidity needs of the participants in the rural financing business, Farmer Mac foresees opportunities for continued growth across our lines of business, driven by several key factors:

- As agricultural and rural utilities lenders seek to manage equity capital and return on equity capital requirements or seek to reduce exposure due to lending limits or concentration limits, Farmer Mac can provide relief for those institutions through loan purchases, participations, guarantees, LTSPCs, or wholesale funding.
- While overall loan growth within the rural utilities industry appears to be modest in the near term due to generally flat demand for capital, future growth opportunities may increase in Farmer Mac's Rural Utilities line of business from transacting business with new counterparties and exploring new types of loan products. These opportunities may be limited by sector growth, credit quality, and the competitiveness of Farmer Mac's products.
- As a result of business development efforts, targeted marketing and brand awareness initiatives, product development efforts, and continued interest in the agricultural asset class from institutional investors, Farmer Mac's customer base and product set continue to expand, which may generate more demand for Farmer Mac's products from new sources.
- Consolidation within the agricultural finance industry, coupled with Farmer Mac's relationships with larger regional and national lenders, continue to provide opportunities that could influence Farmer Mac's loan demand and the average transaction size within Farmer Mac's Farm & Ranch line of business.
- Expansion opportunities for agricultural producers resulting from the consolidation and vertical integration that is occurring across many sectors of the agricultural industry may also generate demand for Farmer Mac's Farm & Ranch loan products.

We believe that these growth opportunities will be important in replacing income earned on our loans and other assets as they mature, pay down, or are reinvested at potentially lower spreads.

Expense Outlook. Farmer Mac continues to expand its investments in human capital, technology, and business infrastructure to increase capacity and efficiency as it seeks to accommodate its growth opportunities and achieve its long-term strategic objectives. Accordingly, Farmer Mac expects the annual increases in its operating expenses to be above historical averages over the next several years. Although our operating expenses (compensation and employee benefits, general and administrative expenses, and regulatory fees) for the six months ended June 30, 2019 have increased by only 3% over the comparable prior year period, we continue to believe that aggregate operating expenses will increase by approximately 8% to 9% in 2019 relative to 2018 due to the timing of various growth and strategic initiatives planned for the second half of 2019.

Agricultural Industry. The agricultural industry includes many diverse sectors that respond in different ways to changes in economic conditions. Those individual sectors often are affected differently, sometimes positively and sometimes negatively, by prevailing domestic and global economic factors and regional weather conditions. This results in cycles where one or more sectors may be under stress while others are not. The profitability of agricultural sectors is also affected by the demand for and supply of agricultural commodities and products on a domestic and global basis, which can vary largely as a result

of global production trends, international trade policies, weather patterns, access to water supply, and harvest conditions.

Net cash income, one of the USDA's benchmark measures of economic activity in the agricultural industry, has declined significantly since reaching a cyclical peak in 2013. However, changes in farm income levels are largely localized and depend on producer region and commodity production type. The USDA forecasts that aggregate net cash income levels decreased year-over-year in 2018 due to rising farm production expenses that were not entirely offset by higher revenues. The USDA projects net cash income growth will rebound by 4.7% in 2019 due to slight improvements in commodity prices and moderating cash farm expenses. Farmland values appear to have held steady in 2018, even in the Midwest region where producers are most exposed to changes in the grain markets. Data released in 2018 by the USDA indicates an average increase in farm real estate values of 2.7% in 2018 in Corn Belt states (Illinois, Indiana, Iowa, Missouri, and Ohio), but a decrease of 1.4% in Northern Plains states (Kansas, Nebraska, North Dakota, and South Dakota). In all other regions, farmland value averages are reported to be flat to increasing. While regional averages for farmland values provide a good barometer for the overall movement in U.S. farmland values, economic forces affecting land markets are highly localized and some markets may experience greater volatility than state or national averages indicate.

Over the past few decades, the U.S. agricultural industry has become increasingly connected to global trade, and agricultural export demand depends significantly on trading relationships in numerous foreign markets, as well as on foreign exchange rates. A slowdown in global economic growth or continued tightening in trade policies and agreements could adversely affect the demand for certain U.S. agricultural exports, which may result in downward pressure on commodity prices. For example, the series of reciprocal import tariffs placed on various agricultural products by China and the U.S. during 2018 and 2019 has materially affected the export sales for these products, particularly soybeans produced in the U.S. In May 2019, Canada and Mexico removed retaliatory tariffs from U.S. agricultural imports, which improved export demand from the U.S.'s largest agricultural trading partners.

In 2018 and 2019, the USDA has used direct financial aid to try to dampen the effects of market disruption due to retaliatory tariffs placed by trading partners on agricultural exports. In August 2018, the USDA announced details on a \$12 billion aid package for U.S. agricultural producers designed to help offset expected market losses resulting from trade disruptions. The American Farm Bureau reports that, as of May 13, 2019, more than \$8.5 billion has been directly distributed to producers through the USDA's Market Facilitation Program (MFP), the largest and most direct component of the trade aid package. The 2018 MFP payments constitute approximately 9.3% of 2018 net cash income, which equates to approximately 60% of the estimated decrease in net cash income for 2018. Farmer Mac estimates that about 50% of outstanding Farm & Ranch loan volume as of June 30, 2019 was to borrowers who were eligible for a payment under the 2018 MFP. In May 2019, the USDA released initial details on a new relief package totaling up to \$16 billion in aid, \$14.5 billion of which could come from direct MFP payments. The USDA expects payments to occur in three tranches from August 2019 through January 2020, and any future payments would be cancelable if market conditions improve. Farmer Mac estimates that about 65% of outstanding Farm & Ranch loan volume as of June 30, 2019 was to borrowers who would be eligible for a payment under the 2019 MFP. Coincident with the trade stresses, the U.S. dollar (as measured by the U.S. Dollar Index) strengthened by approximately 5% during 2018. This decreased the competitiveness of U.S. agricultural exports and thereby diminished their global demand and contributed to reduced producer profitability. Through second quarter 2019, the U.S. dollar strength remained relatively unchanged from late 2018. We believe that our portfolio is sufficiently diverse by product and production region to be able to withstand any short-term market volatility that may arise

because of changes in trade policy or sentiment. However, a prolonged trade dispute between one or more primary agricultural markets without substantial offsetting relief could put significant financial stress on the U.S. agricultural industry, which could have an adverse effect on Farmer Mac's portfolio.

In addition to global trade disruptions, many U.S. farmers and ranchers experienced difficult weather conditions during the first half of 2019. Due to excessive soil moisture, record-setting precipitation, and cool temperatures early in the growing cycle, many corn and soybean growers throughout the Midwest were either significantly delayed or prevented from planting their intended crop for 2019. Delays in corn and soybean planting reduce crop yield potential and, ultimately, total grain production. USDA has reported that, through early June 2019, corn planting progress set a record slow pace in 23 states including most of the Midwestern Corn Belt. Farmer Mac estimates that 27% of outstanding Farm & Ranch loan volume as of June 30, 2019 was to borrowers growing corn and soybeans in the affected area. Also, the clear majority of corn and soybean acres are enrolled in federally-subsidized crop insurance programs. According to USDA data, nearly 90% of all U.S. corn and soybean acres planted between 2016 and 2018 were enrolled in federal crop insurance programs, and most policies include a provision that allows for insurance payment claims on acres that were prevented from planting due to inclement weather. Farmer Mac estimates that about 85% of outstanding Farm & Ranch loan volume to borrowers growing some corn or soybeans in the affected states likely maintain federal crop insurance coverage. The reduced supply expectations for grains attributable to adverse weather conditions put upward pressure on market prices during second quarter 2019. Corn and soybean futures prices rose 19% and 10%, respectively, between May and July. Although planting conditions were difficult in 2019, Farmer Mac believes that there are enough risk mitigators in its grain portfolio to offset the short-term pressure to grain profitability related to adverse weather.

In recent years, the 90-day delinquencies and credit losses in Farmer Mac's portfolio have remained low compared to historical averages. However, some indications of stress have emerged, as the volume of Farmer Mac's substandard assets has generally increased since 2015. To date, the fluctuations in 90-day delinquencies and the increase in substandard assets have not yet translated into rising credit losses. Farmer Mac believes that any losses associated with the current agricultural credit cycle will be moderated by the strength and diversity of its portfolio, which Farmer Mac believes is adequately collateralized. Farmer Mac believes that its portfolio remains sufficiently diversified, both geographically and by commodity, and that its portfolio has been underwritten to high credit quality standards. Farmer Mac therefore believes that its portfolio is well-positioned to endure reasonably foreseeable volatility in farmland values and commodity prices. Farmer Mac also continues to closely monitor sector profitability, economic and weather conditions, and agricultural land value and geographic trends to tailor underwriting practices to changing conditions. For more information about the loan balances, loan-to-value ratios, 90-day delinquencies, and substandard asset rate for the Farm & Ranch loans in Farmer Mac's portfolio as of June 30, 2019, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Farmer Mac continues to monitor the establishment and evolution of legislation and regulations, as well as the status of various international trade agreements and partnerships, that could affect farmers, ranchers, rural lenders, and rural America in general. The Agricultural Improvement Act of 2018, also referred to as the "farm bill," was signed into law in December 2018. Many provisions in the new farm bill are a continuation of existing federal agricultural policies in effect under the previous farm bill, including those affecting crop insurance, commodity support programs, and other aspects of agricultural production. We will continue to monitor the effects of any altered federal agricultural policies as the USDA adopts final regulations implementing the new farm bill.

The farm bill includes a provision that amends Farmer Mac's charter to expand the acreage exception to the loan amount limitation on Farm & Ranch loans (currently \$13.1 million) from 1,000 acres to 2,000 acres, subject to FCA's assessment of the feasibility of the change. FCA submitted its assessment to Congress on June 18, 2019. In that assessment, FCA concluded that increasing the acreage exception from 1,000 to 2,000 acres is feasible, would not raise any safety and soundness concerns, and would provide additional farming operations unconstrained access to Farmer Mac's secondary market. Accordingly, the acreage exception will increase to 2,000 acres on June 18, 2020, meaning that the statutory loan amount limitation will not apply to Farm & Ranch loans secured by 2,000 acres of agricultural real estate or less. Farmer Mac will continue to evaluate this future increase in the acreage limitation to determine the potential benefits to Farmer Mac's customers and the related effects on our business.

Under the farm bill, the authorized limit for the amount of new guarantees issued by the USDA under the Consolidated Farm and Rural Development Act, which are eligible for Farmer Mac's USDA Guarantees line of business, was increased from \$3.026 billion to \$7.0 billion for each government fiscal year through September 2023. Also, the limit for the size of individual loans to which these guarantees are applied was increased from \$1.399 million to \$1.75 million, which thereby increases the authorized amount of the USDA-guaranteed portion for an individual loan. These higher loan limits could result in increased new business volume in our USDA Guarantees line of business, and we have already purchased USDA-guaranteed portions allowed under the raised individual loan limit.

Farmer Mac continues to monitor the impact of state legislation and regulations that could impact U.S. agriculture. For example, groundwater management practices, including in California, may result in tighter restrictions on groundwater usage that could affect agricultural producers in the future. Farmer Mac will monitor the effects that any changes in legislation or regulation (federal or state) could have on Farmer Mac or its customers.

Farmer Mac's marketing and brand awareness initiatives directed towards the Farm & Ranch line of business focus on lenders that have demonstrated a commitment to agricultural lending based on their lending history. Farmer Mac conducts its outreach efforts to these lenders through direct personal contact, which is facilitated through Farmer Mac's frequent participation in state and national banking conferences, its alliances with the American Bankers Association and the Independent Community Bankers of America, and its business relationships with members of the Farm Credit System. Farmer Mac's initiatives to increase the awareness of Farmer Mac and its products within the agricultural lender community and the larger agricultural industry have included hosting events on relevant agricultural lending topics, participating on speaker panels at agriculture-related regional and national conferences, and distributing original content about conditions in the agricultural economy. Demand for Farmer Mac's secondary market tools also depends on the fluctuating needs of rural lenders as they seek to maintain liquidity and adequate capital levels.

Farmer Mac also directs marketing efforts towards the agricultural industry by trying to identify and develop relationships with potential issuers of AgVantage securities, including insurance company agricultural lenders, agricultural finance companies, and bank and non-bank agricultural lenders such as agricultural mortgage funds, all of whom can pledge loans as collateral to obtain financing as part of Farmer Mac's Institutional Credit line of business. Farmer Mac offers other AgVantage products tailored to fund investors in agricultural mortgages. Farmer Mac directs its outreach efforts to these potential issuers through its business relationships within the agricultural community and through executive outreach to

institutions whose profile presents an opportunity to benefit from wholesale financing. As institutional investment in agricultural assets continues to grow, Farmer Mac believes that it is in a unique position to help increase access to capital for these types of counterparties and thereby provide a new source of capital to benefit rural America. Farmer Mac believes there is opportunity to expand this type of business as both the trend toward institutional investment in agricultural assets and awareness of Farmer Mac's AgVantage product offerings continue to grow. For more information about the AgVantage products, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional."

Rural Utilities Industry. Prospects for loan growth within the rural utilities industry appear to be modest in the near term due to generally flat demand for capital, as capital expenditures for large generation assets have decreased and increased revenues for electrical cooperatives have driven a de-leveraging trend. Future growth opportunities within the rural utilities industry may be impacted by the demand for electric power in rural areas, capital expenditures by electric cooperatives driven by regulatory or technological changes, and competitive dynamics within the rural utilities cooperative finance industry. In the coming years, the retirement of coal generation assets, the growth in renewable energy generation, the deployment of energy storage technologies, and the deepening of relationships with new and existing counterparties, may provide new business opportunities for Farmer Mac.

Balance Sheet Review

Assets. Farmer Mac's total assets as of June 30, 2019 were \$20.7 billion, compared to \$18.7 billion as of December 31, 2018. The increase in total assets was primarily attributable to the net growth in our outstanding business volume across all lines of business.

As of June 30, 2019, Farmer Mac had \$0.4 billion of cash and cash equivalents and \$3.0 billion of investment securities, compared to \$0.4 billion of cash and cash equivalents and \$2.3 billion of investment securities as of December 31, 2018. As of June 30, 2019, Farmer Mac had \$8.6 billion of Farmer Mac Guaranteed Securities, \$6.3 billion of loans, net of allowance, and \$2.1 billion of USDA Securities. This compares to \$8.1 billion of Farmer Mac Guaranteed Securities, \$5.5 billion of loans, net of allowance, and \$2.2 billion of USDA Securities as of December 31, 2018.

Liabilities. Farmer Mac's total liabilities were \$20.0 billion as of June 30, 2019, compared to \$17.9 billion as of December 31, 2018. The increase in total liabilities was primarily attributable to an increase in total notes payable.

Equity. As of June 30, 2019, Farmer Mac had total equity of \$773.7 million, compared to \$752.6 million as of December 31, 2018. The net increase in total equity of \$21.1 million was a result of the Board-authorized Series D Preferred Stock issuance of \$100.0 million, an increase in retained earnings of \$35.2 million, partially offset by the redemption of \$75.0 million of Series B Preferred Stock and a decrease in accumulated other comprehensive income of \$37.8 million.

Off-Balance Sheet Arrangements

Farmer Mac offers approved lenders two credit enhancement alternatives to increase their liquidity or lending capacity while retaining the cash flow benefits of their loans: (1) Farmer Mac Guaranteed Securities, which are available through each of the Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit lines of business; and (2) LTSPCs, which are available through the Farm & Ranch and Rural Utilities lines of business. For securitization trusts where Farmer Mac is the primary beneficiary, the trust assets and liabilities are included on Farmer Mac's consolidated balance sheet. For securitization trusts where Farmer Mac is not the primary beneficiary and in the event of de-consolidation, both of these alternatives create off-balance sheet obligations for Farmer Mac. See Note 6 to the consolidated financial statements for more information about consolidation and Farmer Mac's off-balance sheet business activities.

Risk Management

Credit Risk – Loans and Guarantees. Farmer Mac's direct credit exposure to Farm & Ranch loans held and loans underlying Farm & Ranch Guaranteed Securities and LTSPCs as of June 30, 2019 was \$7.3 billion across 48 states. For more information about Farmer Mac's underwriting and collateral valuation standards for Farm & Ranch loans, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Underwriting and Collateral Valuation (Appraisal) Standards" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

Farmer Mac's direct credit exposure to Rural Utilities loans held and loans underlying LTSPCs as of June 30, 2019 was \$2.1 billion across 43 states, of which \$1.7 billion were loans to electric distribution cooperatives and \$0.4 billion were loans to Generation & Transmission cooperatives. For more information about Farmer Mac's underwriting and collateral valuation standards for Rural Utilities loans, see "Business—Farmer Mac's Lines of Business—Rural Utilities—Underwriting" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019. As of June 30, 2019, there were no delinquencies in Farmer Mac's portfolio of Rural Utilities loans, and Farmer Mac had not experienced any credit losses on Rural Utilities loans since Congress authorized Farmer Mac's Rural Utilities line of business in 2008. Based on this performance, Farmer Mac excludes the loans in the Rural Utilities line of business from the credit risk metrics it discloses.

Farmer Mac has indirect credit exposure to the Farm & Ranch loans and Rural Utilities loans that secure AgVantage securities included in the Institutional Credit line of business. For more information about Farmer Mac's underwriting and collateral valuation standards for Institutional Credit securities, see "Business—Farmer Mac's Lines of Business—Institutional Credit" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019. As of June 30, 2019, Farmer Mac had not experienced any credit losses on any AgVantage securities and does not expect to incur any such losses in the future. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional" for more information about Farmer Mac's credit risk on AgVantage securities.

The credit exposure on USDA Securities, including those underlying Farmer Mac Guaranteed USDA Securities, is covered by the full faith and credit of the United States. Therefore, Farmer Mac believes that we have little or no credit risk exposure in the USDA Guarantees line of business because of the USDA guarantee. As of June 30, 2019, Farmer Mac had not experienced any credit losses on any

business under the USDA Guarantees line of business and does not expect to incur any such losses in the future.

Farmer Mac considers a loan's original loan-to-value ratio as one of many factors in evaluating loss severity. Loan-to-value ratios depend on the market value of a property, as determined in accordance with Farmer Mac's collateral valuation standards. As of June 30, 2019 and December 31, 2018, the average unpaid loan balances for loans outstanding in the Farm & Ranch line of business was \$644,000 and \$640,000, respectively. Farmer Mac calculates the original loan-to-value ratio of a loan by dividing the original loan principal balance by the original appraised property value. This calculation does not reflect any amortization of the original loan balance or any adjustment to the original appraised value to provide a current market value. The original loan-to-value ratio of any cross-collateralized loans is calculated on a consolidated basis rather than on a loan-by-loan basis. The weighted-average original loan-to-value ratio for Farm & Ranch loans purchased during second quarter 2019 was 53%, compared to 46% for loans purchased during second quarter 2018. The weighted-average original loan-to-value ratio for all Farm & Ranch loans held and all loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs was 51% as of both June 30, 2019 and December 31, 2018. The weighted-average original loan-to-value ratio for all 90-day delinquencies was 52% as of both June 30, 2019 and December 31, 2018.

The weighted-average current loan-to-value ratio (the loan-to-value ratio based on original appraised value and current outstanding loan amount adjusted to reflect loan amortization) for Farm & Ranch loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs was 45% as of both June 30, 2019 and December 31, 2018. See Table 16 for more information.

For more information about the credit quality of Farmer Mac's Farm & Ranch portfolio and the associated allowance for losses please refer to Note 5 to the consolidated financial statements.

Activity affecting the allowance for loan losses and reserve for losses is discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Provision for and Release of Allowance for Loan Losses and Reserve for Losses."

Farmer Mac's 90-day delinquency measure includes loans 90 days or more past due, as well as loans in foreclosure and non-performing loans where the borrower is in bankruptcy. As of June 30, 2019, Farmer Mac's 90-day delinquencies were \$28.0 million (0.38% of the Farm & Ranch portfolio), compared to \$26.9 million (0.37% of the Farm & Ranch portfolio) as of December 31, 2018 and \$43.1 million (0.61% of the Farm & Ranch portfolio) as of June 30, 2018. Those 90-day delinquencies were comprised of 53 delinquent loans as of June 30, 2019, compared to 47 delinquent loans as of December 31, 2018 and 54 delinquent loans as of June 30, 2018. The slight increase in 90-day delinquencies as a percentage of the Farm & Ranch portfolio compared to December 31, 2018 is primarily due to idiosyncratic rather than macroeconomic factors.

Farmer Mac's 90-day delinquencies have historically fluctuated from quarter to quarter, both in dollars and as a percentage of the outstanding Farm & Ranch portfolio, with higher levels generally observed at the end of the first and third quarters and lower levels generally observed at the end of the second and fourth quarters of each year as a result of the annual (January 1st) and semi-annual (January 1st and July 1st) payment terms of most Farm & Ranch loans. Farmer Mac believes that it remains adequately collateralized on its delinquent loans. Farmer Mac expects that over time its 90-day delinquency rate will revert closer to Farmer Mac's historical average, and possibly exceed it (which it did in third quarter 2017), due to macroeconomic factors and the cyclical nature of the agricultural economy. Farmer Mac's

average 90-day delinquency rate as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 1%. The highest 90-day delinquency rate observed during that period occurred in 2009 at approximately 2%, which coincided with increased delinquencies in loans within Farmer Mac's then-held ethanol loan portfolio that Farmer Mac no longer holds.

The following table presents historical information about Farmer Mac's 90-day delinquencies in the Farm & Ranch line of business compared to the principal balance of all Farm & Ranch loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs:

Table 14

	Farm & Ranch Line of Business	90-Day Delinquencies	Percentage
	<i>(dollars in thousands)</i>		
As of:			
June 30, 2019	\$ 7,291,352	\$ 28,045	0.38%
March 31, 2019	7,215,585	52,366	0.73%
December 31, 2018	7,233,971	26,881	0.37%
September 30, 2018	7,072,018	37,545	0.53%
June 30, 2018	7,045,397	43,076	0.61%
March 31, 2018	6,932,002	47,560	0.69%
December 31, 2017	6,867,586	48,444	0.71%
September 30, 2017	6,557,030	66,381	1.01%
June 30, 2017	6,426,518	41,901	0.65%

When analyzing the overall risk profile of its lines of business, Farmer Mac considers more than the Farm & Ranch loan delinquency percentages provided above. The lines of business also include AgVantage securities and Rural Utilities loans held and underlying LTSPCs, neither of which have any delinquencies, and USDA Securities, which are backed by the full faith and credit of the United States.

Across all of Farmer Mac's lines of business, 90-day delinquencies represented 0.14% of total outstanding business volume as of June 30, 2019, compared to 0.14% as of December 31, 2018 and 0.22% as of June 30, 2018. The following table presents outstanding Farm & Ranch loans held and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities and 90-day delinquencies as of June 30, 2019 by year of origination, geographic region, commodity/collateral type, original loan-to-value ratio, and range in the size of borrower exposure:

Table 15

Farm & Ranch 90-Day Delinquencies as of June 30, 2019

	Distribution of Farm & Ranch Line of Business	Farm & Ranch Line of Business	90-Day Delinquencies ⁽¹⁾	Percentage
		(dollars in thousands)		
By year of origination:				
2009 and prior	10%	\$ 736,581	\$ 6,229	0.85%
2010	2%	133,976	—	—%
2011	3%	190,896	2,740	1.44%
2012	6%	478,175	105	0.02%
2013	9%	688,330	3,041	0.44%
2014	8%	555,915	1,913	0.34%
2015	10%	720,763	566	0.08%
2016	15%	1,070,142	7,566	0.71%
2017	17%	1,253,471	5,563	0.44%
2018	14%	1,036,673	322	0.03%
2019	6%	426,430	—	—%
Total	100%	\$ 7,291,352	\$ 28,045	0.38%
By geographic region ⁽²⁾ :				
Northwest	11%	\$ 847,475	\$ 11,513	1.36%
Southwest	32%	2,337,303	4,552	0.19%
Mid-North	32%	2,304,637	4,386	0.19%
Mid-South	12%	891,870	2,133	0.24%
Northeast	5%	340,290	4,986	1.47%
Southeast	8%	569,777	475	0.08%
Total	100%	\$ 7,291,352	\$ 28,045	0.38%
By commodity/collateral type:				
Crops	52%	\$ 3,785,746	\$ 15,383	0.41%
Permanent plantings	21%	1,552,572	4,286	0.28%
Livestock	19%	1,360,281	5,982	0.44%
Part-time farm	7%	504,553	2,394	0.47%
Ag. Storage and Processing	1%	80,560	—	—%
Other	—	7,640	—	—%
Total	100%	\$ 7,291,352	\$ 28,045	0.38%
By original loan-to-value ratio:				
0.00% to 40.00%	18%	\$ 1,298,487	\$ 4,524	0.35%
40.01% to 50.00%	26%	1,856,262	5,221	0.28%
50.01% to 60.00%	35%	2,556,271	11,026	0.43%
60.01% to 70.00%	17%	1,268,048	6,645	0.52%
70.01% to 80.00% ⁽³⁾	4%	292,080	332	0.11%
80.01% to 90.00% ⁽³⁾	—%	20,204	297	1.47%
Total	100%	\$ 7,291,352	\$ 28,045	0.38%
By size of borrower exposure ⁽⁴⁾ :				
Less than \$1,000,000	34%	\$ 2,438,984	\$ 11,976	0.49%
\$1,000,000 to \$4,999,999	38%	2,766,582	16,069	0.58%
\$5,000,000 to \$9,999,999	13%	927,153	—	—%
\$10,000,000 to \$24,999,999	8%	612,040	—	—%
\$25,000,000 and greater	7%	546,593	—	—%
Total	100%	\$ 7,291,352	\$ 28,045	0.38%

⁽¹⁾ Includes loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs that are 90 days or more past due, in foreclosure, or in bankruptcy with at least one missed payment, excluding loans performing under either their original loan terms or a court-approved bankruptcy plan.

⁽²⁾ Geographic regions: Northwest (AK, ID, MT, OR, WA, WY); Southwest (AZ, CA, CO, HI, NM, NV, UT); Mid-North (IA, IL, IN, MI, MN, NE, ND, SD, WI); Mid-South (AR, KS, LA, MO, OK, TX); Northeast (CT, DE, KY, MA, MD, ME, NH, NJ, NY, OH, PA, RI, VA, VT, WV); Southeast (AL, FL, GA, MS, NC, SC, TN).

⁽³⁾ Primarily part-time farm loans. Loans with an original loan-to-value ratio of greater than 80% are required to have private mortgage insurance.

⁽⁴⁾ Includes aggregated loans to single borrowers or borrower-related entities.

Another indicator that Farmer Mac considers in analyzing the credit quality of its Farm & Ranch portfolio is the level of internally-rated "substandard" assets, both in dollars and as a percentage of the outstanding Farm & Ranch portfolio. Assets categorized as "substandard" have a well-defined weakness or weaknesses, and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected. As of June 30, 2019, Farmer Mac's substandard assets were \$242.7 million (3.3% of the Farm & Ranch portfolio), compared to \$232.7 million (3.2% of the Farm & Ranch portfolio) as of December 31, 2018. Those substandard assets were comprised of 336 loans as of June 30, 2019 and 318 loans as of December 31, 2018. The \$10.0 million increase in substandard assets during the first half of 2019 compared to December 31, 2018 was due to the downgrade of more assets into the substandard category than those that paid off or migrated to a more favorable category. Of the assets that were downgraded into the substandard category, the majority of the loan volume was in the cattle and calves, dairy, and cotton commodity sub-groups. As of June 30, 2019, substandard asset volume included several large exposures and represents a relatively diverse set of commodities. Farmer Mac did not experience a significant change in the concentration of its substandard assets among commodities during second quarter 2019 compared to December 31, 2018. Feed grains, oilseeds, and cattle and calves continue to be the top three commodity sub-groups represented in the substandard asset category, comprising 59% of substandard assets as of June 30, 2019.

Farmer Mac's average substandard assets as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 4%. Due to macroeconomic factors and the cyclical nature of the agricultural economy, Farmer Mac expects that over time its substandard asset rate will eventually revert closer to, and possibly exceed, Farmer Mac's historical average. The highest substandard asset rate observed during that period occurred in 2010 at approximately 8%, which coincided with an increase in substandard loans within Farmer Mac's then-held ethanol portfolio that Farmer Mac no longer holds. If Farmer Mac's substandard asset rate increases from current levels, it is likely that Farmer Mac's provision to the allowance for loan losses and the reserve for losses will also increase.

Although some credit losses are inherent to the business of agricultural lending, Farmer Mac believes that any losses associated with the current agricultural credit cycle will be moderated by the strength and diversity of its portfolio, which Farmer Mac believes is adequately collateralized.

The following table presents the current loan-to-value ratios for the Farm & Ranch portfolio, as disaggregated by internally assigned risk grades:

Table 16

Farm & Ranch current loan-to-value ratio by internally assigned grade as of June 30, 2019

	Acceptable	Special Mention	Substandard	Total
	<i>(in thousands)</i>			
Current loan-to-value ratio ⁽¹⁾ :				
0.00% to 40.00%	\$ 2,418,595	\$ 74,096	\$ 74,902	\$ 2,567,593
40.01% to 50.00%	1,831,726	80,712	70,702	1,983,140
50.01% to 60.00%	1,569,828	116,114	57,387	1,743,329
60.01% to 70.00%	659,946	27,927	20,299	708,172
70.01% to 80.00%	244,467	9,822	4,056	258,345
80.01% and greater	13,007	2,409	15,357	30,773
Total	\$ 6,737,569	\$ 311,080	\$ 242,703	\$ 7,291,352

⁽¹⁾ The current loan-to-value ratio is based on original appraised value and current outstanding loan amount adjusted to reflect loan amortization.

The following table presents Farmer Mac's cumulative net credit losses relative to the cumulative original balance for all Farm & Ranch loans purchased and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities as of June 30, 2019 by year of origination, geographic region, and commodity/collateral type. The purpose of this information is to present information about losses relative to original Farm & Ranch purchases, guarantees, and commitments.

Table 17

Farm & Ranch Credit Losses Relative to Cumulative
Original Loans, Guarantees, and LTSPCs as of June 30, 2019

	Cumulative Original Loans, Guarantees and LTSPCs	Cumulative Net Credit Losses/ (Recoveries)	Cumulative Loss Rate
	(dollars in thousands)		
By year of origination:			
2009 and prior	\$ 14,668,614	\$ 30,146	0.21 %
2010	664,342	5	— %
2011	778,334	3,661	0.47 %
2012	1,153,414	—	— %
2013	1,420,773	—	— %
2014	982,847	—	— %
2015	1,110,900	(473)	(0.04)%
2016	1,425,856	—	— %
2017	1,519,696	—	— %
2018	1,229,963	—	— %
2019	476,724	—	— %
Total	<u>\$ 25,431,463</u>	<u>\$ 33,339</u>	0.13 %
By geographic region ⁽¹⁾ :			
Northwest	\$ 3,333,994	\$ 11,191	0.34 %
Southwest	8,955,370	8,167	0.09 %
Mid-North	6,392,476	12,897	0.20 %
Mid-South	3,031,869	(211)	(0.01)%
Northeast	1,495,754	323	0.02 %
Southeast	2,222,000	972	0.04 %
Total	<u>\$ 25,431,463</u>	<u>\$ 33,339</u>	0.13 %
By commodity/collateral type:			
Crops	\$ 11,632,762	\$ 2,887	0.02 %
Permanent plantings	5,559,748	9,368	0.17 %
Livestock	5,890,627	3,877	0.07 %
Part-time farm	1,479,721	1,534	0.10 %
Ag. Storage and Processing	712,497	15,673	2.20 %
Other	156,108	—	— %
Total	<u>\$ 25,431,463</u>	<u>\$ 33,339</u>	0.13 %

⁽¹⁾ Geographic regions: Northwest (AK, ID, MT, OR, WA, WY); Southwest (AZ, CA, CO, HI, NM, NV, UT); Mid-North (IA, IL, IN, MI, MN, NE, ND, SD, WI); Mid-South (AR, KS, LA, MO, OK, TX); Northeast (CT, DE, KY, MA, MD, ME, NH, NJ, NY, OH, PA, RI, VA, VT, WV); Southeast (AL, FL, GA, MS, NC, SC, TN).

Analysis of portfolio performance indicates that commodity type is the primary determinant of Farmer Mac's exposure to loss on a given loan. The following tables present concentrations of Farm & Ranch loans held and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities by commodity type within geographic region and cumulative credit losses by origination year and commodity type:

Table 18

As of June 30, 2019							
Farm & Ranch Concentrations by Commodity Type within Geographic Region							
Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total	
(dollars in thousands)							
By geographic region ⁽¹⁾ :							
Northwest	\$ 395,843	\$ 131,937	\$ 241,673	\$ 77,628	\$ —	\$ 394	\$ 847,475
	5.4%	1.7%	3.3%	1.0%	—%	—%	11.4%
Southwest	541,021	1,212,675	440,280	85,443	53,918	3,966	2,337,303
	7.4%	16.7%	6.0%	1.2%	0.7%	0.1%	32.1%
Mid-North	1,946,157	14,908	196,136	137,370	7,634	2,432	2,304,637
	26.7%	0.2%	2.7%	1.9%	0.1%	—%	31.6%
Mid-South	552,692	5,025	265,620	59,666	8,525	342	891,870
	7.6%	0.1%	3.7%	0.8%	0.1%	—%	12.3%
Northeast	166,853	30,720	66,273	72,286	4,158	—	340,290
	2.3%	0.4%	0.9%	1.0%	0.1%	—%	4.7%
Southeast	183,180	157,307	150,299	72,160	6,325	506	569,777
	2.5%	2.2%	2.1%	1.0%	0.1%	—%	7.9%
Total	\$ 3,785,746	\$ 1,552,572	\$1,360,281	\$ 504,553	\$ 80,560	\$ 7,640	\$7,291,352
	51.9%	21.3%	18.7%	6.9%	1.1%	0.1%	100.0%

⁽¹⁾ Geographic regions: Northwest (AK, ID, MT, OR, WA, WY); Southwest (AZ, CA, CO, HI, NM, NV, UT); Mid-North (IA, IL, IN, MI, MN, NE, ND, SD, WI); Mid-South (AR, KS, LA, MO, OK, TX); Northeast (CT, DE, KY, MA, MD, ME, NH, NJ, NY, OH, PA, RI, VA, VT, WV); Southeast (AL, FL, GA, MS, NC, SC, TN).

Table 19

As of June 30, 2019							
Farm & Ranch Cumulative Credit Losses by Origination Year and Commodity Type							
Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Total		
(in thousands)							
By year of origination:							
2009 and Prior	\$ 3,427	\$ 9,368	\$ 3,872	\$ 1,467	\$ 12,012	\$ 30,146	
2010	—	—	5	—	—	5	
2011	—	—	—	—	3,661	3,661	
2012	—	—	—	—	—	—	
2013	—	—	—	—	—	—	
2014	—	—	—	—	—	—	
2015	(540)	—	—	67	—	(473)	
2016	—	—	—	—	—	—	
2017	—	—	—	—	—	—	
2018	—	—	—	—	—	—	
2019	—	—	—	—	—	—	
Total	\$ 2,887	\$ 9,368	\$ 3,877	\$ 1,534	\$ 15,673	\$ 33,339	

Farmer Mac requires most approved lenders to make representations and warranties about the conformity of eligible agricultural mortgage and rural utilities loans to Farmer Mac's standards, the accuracy of loan data provided to Farmer Mac, and other requirements related to the loans. Sellers who make these representations and warranties are responsible to Farmer Mac for breaches of those representations and warranties. Farmer Mac has the ability to require a seller to cure, replace, or repurchase a loan sold or transferred to Farmer Mac if any breach of a representation or warranty is discovered that was material to Farmer Mac's decision to purchase the loan or that directly or indirectly causes a default or potential loss on a loan sold or transferred by the seller to Farmer Mac. During the previous three years ended June 30, 2019, there have been no breaches of representations and warranties by sellers. In addition to relying on the representations and warranties of sellers, Farmer Mac also underwrites the agricultural real estate mortgage loans (other than rural housing and part-time farm mortgage loans) and rural utilities loans on which it has direct credit exposure. For rural housing and part-time farm mortgage loans, Farmer Mac relies on representations and warranties from the seller that those loans conform to Farmer Mac's specified underwriting criteria without exception. For more information about Farmer Mac's loan eligibility requirements and underwriting standards, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Loan Eligibility," "Business—Farmer Mac's Lines of Business—Farm & Ranch—Underwriting and Collateral Valuation (Appraisal) Standards," "Business—Farmer Mac's Lines of Business—Rural Utilities—Loan Eligibility," and "Business—Farmer Mac's Lines of Business—Rural Utilities—Underwriting" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

Under contracts with Farmer Mac and in consideration for servicing fees, Farmer Mac-approved central servicers service loans in accordance with Farmer Mac's requirements. Central servicers are responsible to Farmer Mac for serious errors in the servicing of those loans. If a central servicer materially breaches the terms of its servicing agreement with Farmer Mac, such as failing to forward payments received or releasing collateral without Farmer Mac's consent, or experiences insolvency or bankruptcy, the central servicer is responsible for any corresponding damages to Farmer Mac and, in most cases, Farmer Mac has the right to terminate the servicing relationship for a particular loan or the entire portfolio serviced by the central servicer. Farmer Mac also can proceed against the central servicer in arbitration or exercise

any remedies available to it under law. During the previous three years ended June 30, 2019, Farmer Mac had not exercised any remedies or taken any formal action against any central servicers. For more information about Farmer Mac's servicing requirements, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Servicing" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Servicing" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

Credit Risk – Institutional. Farmer Mac is exposed to credit risk arising from its business relationships with other institutions including:

- issuers of AgVantage securities;
- approved lenders and servicers; and
- interest rate swap counterparties.

Farmer Mac approves AgVantage counterparties and manages institutional credit risk related to those AgVantage counterparties by requiring them to meet Farmer Mac's standards for creditworthiness for the particular counterparty type and transaction. The required collateralization level is established when the AgVantage facility is entered into with the counterparty and does not change during the life of the AgVantage securities issued under the facility without Farmer Mac's consent. In AgVantage transactions, the corporate obligor is required to remove from the pool of pledged collateral any loan that becomes more than 30 days delinquent in the payment of principal or interest and to substitute an eligible loan that is current in payment to maintain the minimum required collateralization level. In the event of a default on the general obligation, Farmer Mac would have recourse to the pledged collateral and have rights to the ongoing borrower payments of principal and interest. For Farm Equity AgVantage counterparties and smaller financial funds or entities, Farmer Mac also requires that the counterparty generally (1) maintain a higher collateralization level, through lower loan-to-value ratio thresholds and higher overcollateralization than required for traditional AgVantage securities and (2) comply with specified financial covenants for the life of the related AgVantage security to avoid default. For a more detailed description of AgVantage securities, see "Business—Farmer Mac's Lines of Business—Institutional Credit—AgVantage Securities" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

The unpaid principal balance of outstanding on-balance sheet AgVantage securities secured by loans eligible for the Farm & Ranch line of business totaled \$5.4 billion as of June 30, 2019 and \$5.3 billion as of December 31, 2018. The unpaid principal balance of on-balance sheet AgVantage securities secured by loans eligible for the Rural Utilities line of business totaled \$3.1 billion as of June 30, 2019 and \$2.8 billion as of December 31, 2018. The unpaid principal balance of outstanding off-balance sheet AgVantage securities totaled \$0.3 billion as of June 30, 2019 and \$0.3 billion as of December 31, 2018.

The following table provides information about the issuers of AgVantage securities, as well as the required collateralization levels for those transactions as of June 30, 2019 and December 31, 2018:

Table 20

Counterparty	As of June 30, 2019			As of December 31, 2018		
	Balance	Credit Rating	Required Collateralization	Balance	Credit Rating	Required Collateralization
<i>(dollars in thousands)</i>						
AgVantage:						
CFC ⁽¹⁾	\$ 3,361,167	A	100%	\$ 3,070,455	A	100%
MetLife	2,550,000	AA-	103%	2,550,000	AA-	103%
Rabo AgriFinance	2,225,000	None	110%	2,075,000	None	110%
Other ⁽²⁾	362,735	⁽³⁾	106% to 125%	407,572	⁽³⁾	106% to 125%
Farm Equity AgVantage ⁽⁴⁾	279,416	None	110%	279,790	None	110%
Total outstanding	<u>\$ 8,778,318</u>			<u>\$ 8,382,817</u>		

⁽¹⁾ Includes \$300.0 million related to a revolving floating rate AgVantage facility. Farmer Mac receives a fixed fee based on the full dollar amount of the facility.

⁽²⁾ Consists of AgVantage securities issued by 5 different issuers as of June 30, 2019 and 6 different issuers as of December 31, 2018.

⁽³⁾ Consists of AgVantage securities from 5 different issuers without a credit rating as of June 30, 2019 and 6 different issuers without a credit rating as of December 31, 2018.

⁽⁴⁾ Consists of AgVantage securities from 5 different issuers as of both June 30, 2019 and December 31, 2018.

Farmer Mac manages institutional credit risk related to lenders and servicers by requiring those institutions to meet Farmer Mac's standards for creditworthiness. Farmer Mac monitors the financial condition of those institutions by evaluating financial statements and bank credit rating agency reports. For more information about Farmer Mac's lender eligibility requirements, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Approved Lenders" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Approved Lenders" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

Farmer Mac manages institutional credit risk related to its interest rate swap counterparties through collateralization provisions contained in each of its swap agreements that varies based on the market value of its swaps portfolio with each counterparty. Farmer Mac and its interest rate swap counterparties are required to fully collateralize their derivatives positions without any minimum threshold for cleared swap transactions, as well as for non-cleared swap transactions entered into after March 1, 2017 (the effective date of new rules that established zero threshold requirements for the exchange of variation margin between Farmer Mac and its swap dealer counterparties in those transactions). Farmer Mac transacts interest rate swaps with multiple counterparties to reduce any counterparty credit exposure concentration. Farmer Mac also uses the clearing process for cleared swap transactions as another mechanism for managing its derivative counterparty risk. Credit risk related to interest rate swap contracts is discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Interest Rate Risk" and Note 4 to the consolidated financial statements.

Credit Risk – Other Investments. As of June 30, 2019, Farmer Mac had \$0.4 billion of cash and cash equivalents and \$3.0 billion of investment securities. The management of the credit risk inherent in these investments is governed by Farmer Mac's internal policies as well as the liquidity and investment regulations for Farmer Mac, which were issued by FCA and which establish criteria for investments that are eligible for Farmer Mac's investment portfolio, including limitations on asset class, dollar amount, issuer concentration, and credit quality. In addition to establishing a portfolio of highly liquid investments as an available source of cash, the goals of Farmer Mac's investment policies are designed to minimize

Farmer Mac's exposure to financial market volatility, preserve capital, and support Farmer Mac's access to the debt markets.

Farmer Mac's liquidity and investment regulations and internal policies require that investments held in Farmer Mac's investment portfolio meet the following creditworthiness standards: (1) at a minimum, at least one obligor of the investment must have a very strong capacity to meet financial commitments for the life of the investment, even under severely adverse or stressful conditions, and generally present a very low risk of default; (2) if the obligor whose capacity to meet financial commitments is being relied upon to meet the standard set forth in subparagraph (1) is located outside of the United States, the investment must also be fully guaranteed by a U.S. government agency; and (3) the investment must exhibit low credit risk and other risk characteristics consistent with the purpose or purposes for which it is held.

Farmer Mac's liquidity and investment regulations and internal policies also establish concentration limits, which are intended to limit exposure to any single entity, issuer, or obligor. Farmer Mac's liquidity and investment regulations limit Farmer Mac's total credit exposure to any single entity, issuer, or obligor of securities to 10% of Farmer Mac's regulatory capital (\$79.6 million as of June 30, 2019). However, Farmer Mac's current policy limits this total credit exposure to 5% of its regulatory capital (\$39.8 million as of June 30, 2019). These exposure limits do not apply to obligations of U.S. government agencies or GSEs, although Farmer Mac's current policy restricts investing more than 100% of regulatory capital in the senior non-convertible debt securities of any one GSE.

Although the Liquidity and Investments Regulations do not establish limits on the maximum amount, expressed as a percentage of Farmer Mac's investment portfolio, that can be invested in each eligible asset class, Farmer Mac's internal policies set forth asset class limits as part of Farmer Mac's overall risk management framework.

Interest Rate Risk. Farmer Mac is subject to interest rate risk on all assets retained on its balance sheet because of possible timing differences in the cash flows of the assets and related liabilities. This risk is primarily related to loans held, Farmer Mac Guaranteed Securities (excluding AgVantage securities), and USDA Securities due to the ability of borrowers to prepay their loans before the scheduled maturities, thereby increasing the risk of asset and liability cash flow mismatches. Cash flow mismatches in a changing interest rate environment can reduce the earnings of Farmer Mac if assets repay sooner than expected and the resulting cash flows must be reinvested in lower-yielding investments when Farmer Mac's funding costs cannot be correspondingly reduced, or if assets repay more slowly than expected and the associated debt must be replaced by higher-cost debt. As discussed below, Farmer Mac manages this interest rate risk by funding assets purchased with liabilities matching the duration, convexity, and cash flow characteristics of the assets purchased.

Interest Rate Risk Management

The goal of interest rate risk management at Farmer Mac is to create and maintain a portfolio that generates stable earnings and value across a variety of interest rate environments. Recognizing that interest rate sensitivity may change with the passage of time and as interest rates change, Farmer Mac assesses this exposure regularly and, if necessary, readjusts its portfolio of assets and liabilities by:

- purchasing assets in the ordinary course of business;
- refinancing existing liabilities; or
- using financial derivatives to alter the characteristics of existing assets or liabilities.

Farmer Mac's primary strategy for managing interest rate risk is to fund asset purchases with liabilities that have similar duration and cash flow characteristics so that they will perform similarly as interest rates change. To match these characteristics, Farmer Mac issues discount notes and both callable and non-callable medium-term notes across a spectrum of maturities. Farmer Mac issues callable debt to offset the prepayment risk associated with some loans. By using a blend of liabilities that includes callable debt, the interest rate sensitivities of the liabilities tend to increase or decrease as interest rates change in a manner similar to changes in the interest rate sensitivities of the assets. Farmer Mac also uses financial derivatives to better match the durations of Farmer Mac's assets and liabilities, thereby reducing overall interest rate sensitivity.

Taking into consideration the prepayment provisions and the default probabilities associated with its loan assets, Farmer Mac uses prepayment models when projecting and valuing cash flows associated with these assets. Because borrowers' behaviors in various interest rate environments may change over time, Farmer Mac periodically evaluates the effectiveness of these models compared to actual prepayment experience and adjusts and refines the models as necessary to improve the precision of future prepayment forecasts.

Generally, the values of Farmer Mac's eligible loan assets, and the debt issued to fund these assets, increase when interest rates decline, and their values decrease as interest rates rise. Furthermore, changes in interest rates may affect loan prepayment rates which may, in turn, affect durations and values of the loans. Declining interest rates generally increase prepayment rates, which shortens the duration of these assets, while rising interest rates tend to slow loan prepayments, thereby extending the duration of the loans.

Farmer Mac is also subject to interest rate risk on loans that Farmer Mac has committed to acquire but has not yet purchased, other than delinquent loans purchased through LTSPCs or loans designated for securitization under a forward purchase agreement. When Farmer Mac commits to purchase these loans, it is exposed to interest rate risk between the time it commits to purchase the loans and the time it issues debt to fund the purchase of those loans.

Farmer Mac manages the interest rate risk related to these loans by using futures contracts involving U.S. Treasury securities and/or forward sale contracts on the debt securities of other GSEs. Farmer Mac uses U.S. Treasury futures contracts as a hedge against the level of interest rates, while forward sale contracts on GSE securities reduce its interest rate exposure to changes in both U.S. Treasury rates and spreads on Farmer Mac debt and certain Farmer Mac Guaranteed Securities. Issuing debt to fund the loans as investments does not fully eliminate interest rate risk due to the possible timing differences in the cash flows of the assets and related liabilities, as discussed above.

Farmer Mac's \$0.4 billion of cash and cash equivalents mature within three months and are funded with discount notes having similar maturities. As of June 30, 2019, \$2.90 billion of the \$2.97 billion of investment securities (98%) were floating rate securities with rates that adjust within one year or fixed rate securities with original maturities between three months and one year. Those securities are funded with effectively floating rate debt that closely matches the rate adjustment dates of the associated investments.

Interest Rate Risk Metrics

Farmer Mac regularly stress tests its portfolio for interest rate risk and uses a variety of metrics to quantify and manage its interest rate risk. These metrics include sensitivity to interest rate movements of market

value of equity ("MVE") and projected net effective spread ("NES") as well as duration gap analysis. MVE represents management's estimate of the present value of all future cash flows from on- and off-balance sheet assets, liabilities, and financial derivatives, discounted at current interest rates and appropriate spreads. However, MVE is not indicative of the market value of Farmer Mac as a going concern because these market values are theoretical and do not reflect future business activities. MVE sensitivity analysis is used to measure the degree to which the market values of Farmer Mac's assets and liabilities change for a given change in interest rates. Because this analysis evaluates the impact of interest rate movements on the value of all future cash flows, this measure provides an evaluation of Farmer Mac's long-term interest rate risk.

Farmer Mac's NES simulation represents the difference between projected income from interest-earning assets and interest expense produced by the related funding, including associated derivatives. Farmer Mac's NES may be affected by changes in market interest rates resulting from timing differences between maturities and re-pricing characteristics of assets and liabilities. The direction and magnitude of any such effect depends on the direction and magnitude of the change in interest rates as well as the composition of Farmer Mac's portfolio. The NES forecast represents an estimate of the net effective spread income that Farmer Mac's current portfolio is expected to produce over a twelve-month horizon. As a result, NES sensitivity statistics provide a short-term view of Farmer Mac's interest rate sensitivity.

Duration is a measure of a financial instrument's sensitivity to small changes in interest rates. Duration gap is the difference between the estimated durations of Farmer Mac's assets and liabilities. Because duration is a measure of market value sensitivity, duration gap summarizes the extent to which estimated market value sensitivities for assets and liabilities are matched. Duration gap provides a relatively concise measure of the interest rate risk inherent in Farmer Mac's outstanding portfolio.

A positive duration gap denotes that the duration of Farmer Mac's assets is greater than the duration of its liabilities. A positive duration gap indicates that the market value of Farmer Mac's assets is more sensitive to small interest rate movements than is the market value of its liabilities. Conversely, a negative duration gap indicates that Farmer Mac's assets are less sensitive to small interest rate movements than are its liabilities.

Each of the metrics is produced using asset/liability models and is derived based on management's best estimates of factors such as projected interest rates, interest rate volatility, and prepayment speeds. Accordingly, these metrics should be understood as estimates rather than as precise measurements. Actual results may differ to the extent there are material changes to Farmer Mac's portfolio or changes in strategies undertaken to mitigate unfavorable sensitivities to interest rate changes.

The following schedule summarizes the results of Farmer Mac's MVE and NES sensitivity analysis as of June 30, 2019 and December 31, 2018 to an immediate and instantaneous uniform or "parallel" shift in the yield curve:

Table 21

Interest Rate Scenario	Percentage Change in MVE from Base Case	
	As of June 30, 2019	As of December 31, 2018
+100 basis points	1.4 %	(0.7)%
-100 basis points	(7.0)%	(5.9)%

Interest Rate Scenario	Percentage Change in NES from Base Case	
	As of June 30, 2019	As of December 31, 2018
+100 basis points	(1.6)%	3.0 %
-100 basis points	2.3 %	(3.0)%

As of June 30, 2019, Farmer Mac's effective duration gap was negative 1.7 months, compared to negative 0.8 months as of December 31, 2018. During the first six months of 2019, interest rates decreased significantly. This rate movement reduced the duration of Farmer Mac's assets relative to its liabilities, thereby widening Farmer Mac's duration gap.

Financial Derivatives Transactions

The economic effects of financial derivatives are included in Farmer Mac's MVE, NES, and duration gap analyses. Farmer Mac enters into the following financial derivative transactions principally to protect against risk from the effects of market price or interest rate movements on the value of assets, future cash flows, credit exposure, and debt issuance, not for trading or speculative purposes:

- "pay-fixed" interest rate swaps, in which Farmer Mac pays fixed rates of interest to, and receives floating rates of interest from, counterparties;
- "receive-fixed" interest rate swaps, in which Farmer Mac receives fixed rates of interest from, and pays floating rates of interest to, counterparties; and
- "basis swaps," in which Farmer Mac pays variable rates of interest based on one index to, and receives variable rates of interest based on another index from, counterparties.

As of June 30, 2019, Farmer Mac had \$13.2 billion combined notional amount of interest rate swaps, with terms ranging from less than one year to thirty years, of which \$5.4 billion were pay-fixed interest rate swaps, \$5.2 billion were receive-fixed interest rate swaps, and \$2.6 billion were basis swaps.

Farmer Mac enters into interest rate swap contracts to synthetically adjust the characteristics of its debt to match more closely the cash flow and duration characteristics of its loans and other assets, thereby reducing interest rate risk and often deriving an overall lower effective cost of borrowing than would otherwise be available to Farmer Mac in the conventional debt market. Specifically, interest rate swaps synthetically convert the variable cash flows related to the forecasted issuance of short-term debt into effectively fixed rate medium-term notes that match the anticipated duration and interest rate characteristics of the corresponding assets. Farmer Mac evaluates the overall cost of using the swap market as a funding alternative and uses interest rate swaps to manage specific interest rate risks for specific transactions. Certain financial derivatives are designated as fair value hedges of fixed rate assets

classified as available for sale or liabilities to protect against fair value changes in the assets or liabilities related to a benchmark interest rate (e.g., LIBOR). Furthermore, certain financial derivatives are designated as cash flow hedges to mitigate the volatility of future interest rate payments on floating rate debt.

As discussed in Note 4 to the consolidated financial statements, all financial derivatives are recorded on the balance sheet at fair value as derivative assets or as derivative liabilities. Changes in the fair values of financial derivatives are reported in "Gains/(losses) on financial derivatives" in the consolidated statements of operations. For financial derivatives designated in fair value hedge accounting relationships, changes in the fair values of the hedged items, primarily fixed rate AgVantage securities and fixed rate medium-term notes, related to the risk being hedged are reported in "Net interest income" in the consolidated statements of operations. Interest accruals on derivatives designated in fair value hedge relationships are also recorded in "Net interest income" in the consolidated statements of operations. For financial derivatives designated in cash flow hedge accounting relationships, the unrealized gain or loss on the derivative is recorded in other comprehensive income. Because the hedging instrument is an interest rate swap and the hedged forecasted transactions are future interest payments on variable rate debt, amounts recorded in accumulated other comprehensive income are reclassified to "Total interest expense" in conjunction with the recognition of interest expense on the debt. All of Farmer Mac's financial derivatives transactions are conducted under standard collateralized agreements that limit Farmer Mac's potential credit exposure to any counterparty. As of June 30, 2019, Farmer Mac had \$44,000 of uncollateralized net exposures to two counterparties. As of December 31, 2018, Farmer Mac had uncollateralized net exposures of \$1.4 million to three counterparties.

Basis Risk

In addition to being exposed to the risk of asset and liability cash flow mismatches, Farmer Mac is exposed to the risk related to changes in its cost of funds relative to floating rate market indexes (such as LIBOR) on some of the floating rate assets it holds. This exposure is referred to as "basis risk." Some of Farmer Mac's floating rate assets reset on rate adjustment dates based on a floating rate market index, while the related debt that Farmer Mac issued to fund those assets until their maturities may be refinanced based on Farmer Mac's cost of funds at a particular time. Basis risk arises from the potential variability between the rates at which those floating rate assets reset and the rates at which Farmer Mac can issue debt to fund those assets. Farmer Mac can fund these floating rate assets in several ways, including:

- issuing short-term discount notes with maturities that match the reset period of the assets;
- issuing floating rate medium-term notes with maturities that match the maturities of the assets;
- issuing non-maturity matched, floating rate medium-term notes; or
- issuing non-maturity matched, fixed-rate discount notes or medium-term notes swapped to match the interest rate reset dates of the assets as an alternative source of effectively floating rate funding.

Farmer Mac primarily uses the last two options in the list above to fund floating rate assets because these options generally provide a lower cost of funding while generating an effective interest rate match. As funding for these floating rate assets matures, Farmer Mac seeks to refinance the debt associated with these assets in a similar fashion to achieve an appropriate interest rate match for the remaining life of the assets. However, for example, if the rates on Farmer Mac's discount notes or medium-term notes deteriorate relative to LIBOR during the time between when these floating rate assets were first funded and when Farmer Mac refinances the associated debt, Farmer Mac is exposed to a commensurate reduction in its net effective spread on the associated assets. Conversely, if the rates on Farmer Mac's

discount notes or medium-term notes improve relative to LIBOR during that time, Farmer Mac would benefit from a commensurate increase in its net effective spread on those assets.

Farmer Mac is also subject to basis risk on some of its fixed rate assets as a result of its use of pay-fixed interest rate swaps, combined with a series of discount note or medium-term note issuances, as an alternative source of effectively fixed rate funding. This risk arises because the rates at which Farmer Mac refinances its funding for some fixed rate assets through the issuance of discount notes or medium-term notes may vary from the agreed-upon rates based on the floating rate market index received by Farmer Mac on the associated swaps. In these cases, for example, if the rates on Farmer Mac's discount notes or medium-term notes were to deteriorate relative to LIBOR, Farmer Mac would be exposed to a commensurate reduction in its net interest income and net effective spread. Conversely, if the rates on Farmer Mac's discount notes or medium-term notes were to improve relative to LIBOR, Farmer Mac would benefit from a commensurate increase in its net interest income and net effective spread.

To mitigate this basis risk, Farmer Mac seeks to issue debt of sufficient maturity to reduce the frequency of required refinancing of that debt over the life of the associated asset. As of June 30, 2019, Farmer Mac held \$6.3 billion of floating rate assets in its lines of business and its investment portfolio that reset based on floating rate market indexes, primarily one-month and three-month LIBOR. As of the same date, Farmer Mac also had \$5.4 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest.

Farmer Mac's short-term funding costs relative to LIBOR have varied throughout 2018. For the first half of the year, funding costs relative to LIBOR were at levels generally more favorable than Farmer Mac's historical experience. During first quarter 2019, these levels had deteriorated to levels less favorable than Farmer Mac's historical experience. Farmer Mac adjusts its funding strategies to mitigate the effects of this variability from time to time and seeks to maintain an effective funding cost.

Discontinuation of LIBOR

As described in "Risk Factors—Market Risk," Farmer Mac faces risks associated with the reform, replacement, or discontinuation of the LIBOR benchmark interest rate and the transition to an alternative benchmark interest rate. We are currently evaluating the potential effect on our business of the replacement of the LIBOR benchmark interest rate, including the possibility of SOFR as a dominant replacement. As of June 30, 2019, Farmer Mac held \$5.1 billion of floating rate assets in its lines of business and its investment portfolio, \$4.1 billion of floating rate debt, and \$13.0 billion notional amount of interest rate swaps, each of which reset based on LIBOR. The market transition away from LIBOR and towards SOFR, or any other alternative benchmark interest rate that may be developed, is expected to be complicated and require significant work, possibly requiring the development of term and credit adjustments to accommodate for differences between the benchmark interest rates. The transition may also result in different financial performance for previously booked transactions, require different hedging strategies, or require renegotiation of previously booked transactions. During the first half of 2019, we issued \$255 million in SOFR-based medium-term notes.

Liquidity and Capital Resources

Farmer Mac's primary sources of funds to meet its liquidity and funding needs are the proceeds of its debt issuances, guarantee and commitment fees, net effective spread, loan repayments, and maturities of AgVantage securities. Farmer Mac regularly accesses the capital markets for funding, and Farmer Mac

has maintained access to the capital markets at favorable rates throughout 2018 and 2019. Farmer Mac funds its purchases of eligible loan assets, USDA Securities, Farmer Mac Guaranteed Securities, and investment assets and finances its operations primarily by issuing debt obligations of various maturities in the public capital markets. As of June 30, 2019, Farmer Mac had outstanding discount notes of \$2.2 billion, medium-term notes that mature within one year of \$7.8 billion, and medium-term notes that mature after one year of \$8.2 billion. Farmer Mac's Board of Directors has authorized the issuance of up to \$20.0 billion of discount notes and medium-term notes (of which \$18.2 billion was outstanding as of June 30, 2019).

Assuming continued access to the capital markets, Farmer Mac believes it has sufficient liquidity and capital resources to support its operations for the next 12 months and for the foreseeable future. Farmer Mac also has a liquidity contingency plan to manage unanticipated disruptions in its access to the capital markets. That plan involves borrowing through repurchase agreement arrangements and the sale of liquid assets. Farmer Mac must maintain a minimum of 90 days of liquidity under its liquidity and investment regulations. Under the methodology for calculating available days of liquidity prescribed by those regulations, Farmer Mac maintained an average of 170 days of liquidity during second quarter 2019 and had 179 days of liquidity as of June 30, 2019.

Farmer Mac maintains cash, cash equivalents (including U.S. Treasury securities and other short-term money market instruments), and other investment securities that can be drawn upon for liquidity needs. The following table presents these assets as of June 30, 2019 and December 31, 2018:

Table 22

	As of June 30, 2019	As of December 31, 2018
	<i>(in thousands)</i>	
Cash and cash equivalents	\$ 396,602	\$ 425,256
Investment securities:		
Guaranteed by U.S. Government and its agencies	1,806,886	1,216,911
Guaranteed by GSEs	1,128,541	1,013,281
Asset-backed securities	32,109	32,692
Total	<u>\$ 3,364,138</u>	<u>\$ 2,688,140</u>

Capital Requirements. Farmer Mac is subject to the following statutory capital requirements – minimum, critical, and risk-based. Farmer Mac must comply with the higher of the minimum capital requirement and the risk-based capital requirement. As of June 30, 2019, Farmer Mac was in compliance with its statutory capital requirements and was classified as within "level I" (the highest compliance level).

In accordance with FCA's rule on capital planning, Farmer Mac's Board of Directors has adopted a policy for maintaining a sufficient level of "Tier 1" capital (consisting of retained earnings, paid-in capital, common stock, and qualifying preferred stock). That policy restricts Tier 1-eligible dividends and any discretionary bonus payments if Tier 1 capital falls below specified thresholds. As of June 30, 2019 and December 31, 2018, Farmer Mac's Tier 1 capital ratio was 13.6% and 13.4%, respectively. The increase in our Tier capital ratio was due to the fact that capital growth, which reflects the issuance of the Series D Preferred Stock, outpaced the growth in risk-weighted assets during second quarter 2019. As of June 30, 2019, Farmer Mac was in compliance with its capital adequacy policy.

For more information about the capital requirements applicable to Farmer Mac, its capital adequacy policy, and FCA's rule on capital planning, see Note 9 to the consolidated financial statements and

"Business—Government Regulation of Farmer Mac—Capital Standards" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019 for more information on the capital requirements applicable to Farmer Mac.

Regulatory Matters

The Agricultural Improvement Act of 2018, known as the "Farm Bill," was signed into law on December 20, 2018 and contains provisions that affect Farmer Mac, as discussed in more detail in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Regulatory Matters" in Farmer Mac's Annual Report on Form 10-K for the fiscal period ended December 31, 2018 filed with the SEC on February 21, 2019. The Farm Bill requires FCA to prepare a study with two components related to Farmer Mac: (1) an analysis and comparison of the financial risks inherent in loans made, held, securitized, or purchased by Farm Credit System ("FCS") banks and associations and Farmer Mac, and how those risks are required to be capitalized under statutes and regulations currently in effect; and (2) an assessment of the feasibility of an increase to the acreage limitation applicable to Farmer Mac's maximum loan size that includes FCA's opinion on alternatives other than the current acreage limitation to adequately address any safety and soundness issues. FCA submitted its assessment to Congress on June 18, 2019.

In the first component of the study, FCA analyzed the loan risk and capital requirements of Farmer Mac compared to FCS banks and associations. FCA concluded that "compared with the System, Farmer Mac has a significantly lower risk profile from a total portfolio perspective" (footnote omitted explaining statistical significance) and that "[t]his difference in the two GSEs' risk profiles is appropriate given their differing statutory authorities, business models, and large proportions of volume in lines of business that the other is not engaged in." In comparing capital requirements, FCA concluded that "[t]here are important differences in capital requirements that are driven by the two GSEs' differing statutory purposes, lending authorities, and asset composition, among other factors"; that Farmer Mac's Basel approach was "appropriate for Farmer Mac's unique rural-focused secondary market business model and the product mix in its program portfolio"; and that "[d]ifferences in authorities, business mode[ls], and business practices, as well as the magnitude of those differences as measured by credit metrics, support the GSEs' differing capital requirements, both statutory and regulatory." Overall, FCA noted that "the major differences between the two GSEs' statutory authorities, business models, and portfolio contents result in different risk profiles"; that "the practical reality of both GSEs' capital requirements is that they generally follow the Basel framework"; and that "both GSEs' capital provisions make appropriate adjustments to the Basel framework consistent with the differences in their business models and risk profiles."

In the second component of the study, FCA concluded that increasing the acreage exception from 1,000 to 2,000 acres is feasible, would not raise any safety and soundness concerns, and would provide additional farming operations unconstrained access to Farmer Mac's secondary market. Accordingly, the acreage exception will increase to 2,000 acres on June 18, 2020, meaning that the statutory loan amount limitation will not apply to Farm & Ranch loans secured by 2,000 acres of agricultural real estate or less. Farmer Mac will continue to evaluate this future increase in the acreage limitation to determine the potential benefits to Farmer Mac's customers and the related effects on our business.

Consistent with Congress' guidance in the 2018 Farm Bill Conference Report, FCA also examined alternatives to the acreage rule (whether 1,000 or 2,000 acres). FCA concluded that the acreage rule does not result in Farmer Mac safety and soundness protections and considered alternatives focused on the risk of exposure concentrations in individual borrowers. FCA's report recommends that Congress direct FCA

to use its regulatory authorities to establish exposure concentration limits to replace both the dollar limit and the acreage exception to the limit in Farmer Mac's charter.

Other Matters

Common Stock Dividends. For first and second quarter 2019, Farmer Mac paid a quarterly dividend of \$0.70 per share on all classes of its common stock. For each quarter in 2018, Farmer Mac paid a quarterly dividend of \$0.58 per share on all classes of its common stock. Farmer Mac's ability to declare and pay dividends on common stock could be restricted if it fails to comply with applicable capital requirements. See "Business—Government Regulation of Farmer Mac—Capital Standards—Enforcement Levels" in Farmer Mac's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on February 21, 2019.

Preferred Stock Dividends. For each of first quarter and second quarter 2019 and for each quarter of 2018, Farmer Mac paid the following quarterly dividends on its outstanding preferred stock:

- \$0.3672 per share on its 5.875% Non-Cumulative Preferred Stock, Series A;
- \$0.4297 per share on its 6.875% Non-Cumulative Preferred Stock, Series B; and
- \$0.3750 per share on its 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C.

For second quarter 2019, Farmer Mac also paid \$0.2626 per share on the Series B Preferred Stock for the period from but not including April 17, 2019 to and including the June 12, 2019 redemption date. The first quarterly dividend payment date for the newly issued Series D Preferred Stock is scheduled to occur during third quarter 2019.

Supplemental Information

The following tables present quarterly and annual information about new business volume, repayments, and outstanding business volume:

Table 23

New Business Volume							
	Farm & Ranch		USDA Guarantees	Rural Utilities		Institutional Credit	
	Loans	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	Total
	(in thousands)						
For the quarter ended:							
June 30, 2019	\$ 248,152	\$ 57,321	\$ 118,335	\$ 105,000	\$ —	\$ 659,447	\$ 1,188,255
March 31, 2019	203,156	91,215	57,223	546,198	—	825,417	1,723,209
December 31, 2018	285,008	80,840	90,297	3,000	—	585,814	1,044,959
September 30, 2018	192,628	64,100	116,339	—	—	1,085,953	1,459,020
June 30, 2018	224,101	126,066	129,960	—	—	825,203	1,305,330
March 31, 2018	259,111	159,065	123,525	8,645	—	813,337	1,363,683
December 31, 2017	204,917	282,809	100,024	15,000	—	234,753	837,503
September 30, 2017	298,274	102,774	131,298	70,000	—	290,995	893,341
June 30, 2017	312,217	55,899	169,261	25,000	—	1,296,757	1,859,134
For the year ended:							
December 31, 2018	960,848	430,071	460,121	11,645	—	3,310,307	5,172,992
December 31, 2017	1,129,545	554,743	531,684	137,341	—	2,383,912	4,737,225

Table 24

Repayments of Assets by Line of Business

	Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	Total
	Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	
(in thousands)								
For the quarter ended:								
Scheduled	\$ 39,879	\$ 3,758	\$ 58,779	\$ 38,676	\$ 6,951	\$ 17,092	\$ 612,964	\$ 778,099
Unscheduled	64,912	3,399	58,979	43,044	—	—	—	170,334
June 30, 2019	<u>\$ 104,791</u>	<u>\$ 7,157</u>	<u>\$ 117,758</u>	<u>\$ 81,720</u>	<u>\$ 6,951</u>	<u>\$ 17,092</u>	<u>\$ 612,964</u>	<u>\$ 948,433</u>
Scheduled	\$ 112,973	\$ 5,843	\$ 74,054	\$ 41,266	\$ 31,492	\$ 7,660	\$ 470,812	\$ 744,100
Unscheduled	67,608	1,798	50,482	46,798	24,448	—	5,587	196,721
March 31, 2019	<u>\$ 180,581</u>	<u>\$ 7,641</u>	<u>\$ 124,536</u>	<u>\$ 88,064</u>	<u>\$ 55,940</u>	<u>\$ 7,660</u>	<u>\$ 476,399</u>	<u>\$ 940,821</u>
Scheduled	\$ 36,006	\$ 8,331	\$ 35,682	\$ 24,793	\$ 6,321	\$ 16,062	\$ 568,277	\$ 695,472
Unscheduled	56,299	9,257	33,319	21,135	20,538	—	—	140,548
December 31, 2018	<u>\$ 92,305</u>	<u>\$ 17,588</u>	<u>\$ 69,001</u>	<u>\$ 45,928</u>	<u>\$ 26,859</u>	<u>\$ 16,062</u>	<u>\$ 568,277</u>	<u>\$ 836,020</u>
Scheduled	\$ 73,476	\$ 5,677	\$ 21,742	\$ 28,135	\$ 25,640	\$ 8,286	\$ 1,102,798	\$ 1,265,754
Unscheduled	77,492	4,562	47,159	35,068	3,476	—	9,760	177,517
September 30, 2018	<u>\$ 150,968</u>	<u>\$ 10,239</u>	<u>\$ 68,901</u>	<u>\$ 63,203</u>	<u>\$ 29,116</u>	<u>\$ 8,286</u>	<u>\$ 1,112,558</u>	<u>\$ 1,443,271</u>
Scheduled	\$ 33,075	\$ 8,391	\$ 31,067	\$ 36,983	\$ 353	\$ 8,699	\$ 759,223	\$ 877,791
Unscheduled	86,426	8,273	69,539	66,601	51,306	—	—	282,145
June 30, 2018	<u>\$ 119,501</u>	<u>\$ 16,664</u>	<u>\$ 100,606</u>	<u>\$ 103,584</u>	<u>\$ 51,659</u>	<u>\$ 8,699</u>	<u>\$ 759,223</u>	<u>\$ 1,159,936</u>
Scheduled	\$ 110,733	\$ 14,085	\$ 70,057	\$ 40,811	\$ 26,507	\$ —	\$ 392,310	\$ 654,503
Unscheduled	73,502	4,929	81,204	43,189	14,952	120,022	—	337,798
March 31, 2018	<u>\$ 184,235</u>	<u>\$ 19,014</u>	<u>\$ 151,261</u>	<u>\$ 84,000</u>	<u>\$ 41,459</u>	<u>\$ 120,022</u>	<u>\$ 392,310</u>	<u>\$ 992,301</u>
Scheduled	\$ 25,848	\$ 14,371	\$ 36,806	\$ 22,381	\$ 315	\$ 13,621	\$ 231,717	\$ 345,059
Unscheduled	49,229	6,941	43,975	24,385	4,876	—	—	129,406
December 31, 2017	<u>\$ 75,077</u>	<u>\$ 21,312</u>	<u>\$ 80,781</u>	<u>\$ 46,766</u>	<u>\$ 5,191</u>	<u>\$ 13,621</u>	<u>\$ 231,717</u>	<u>\$ 474,465</u>
Scheduled	\$ 61,961	\$ 6,735	\$ 21,409	\$ 24,163	\$ 27,191	\$ 39,816	\$ 100,571	\$ 281,846
Unscheduled	49,894	5,861	124,676	45,192	457	—	—	226,080
September 30, 2017	<u>\$ 111,855</u>	<u>\$ 12,596</u>	<u>\$ 146,085</u>	<u>\$ 69,355</u>	<u>\$ 27,648</u>	<u>\$ 39,816</u>	<u>\$ 100,571</u>	<u>\$ 507,926</u>
Scheduled	\$ 21,687	\$ 9,116	\$ 41,821	\$ 35,169	\$ —	\$ 9,885	\$ 1,166,922	\$ 1,284,600
Unscheduled	51,442	10,737	47,262	46,776	—	—	4,000	160,217
June 30, 2017	<u>\$ 73,129</u>	<u>\$ 19,853</u>	<u>\$ 89,083</u>	<u>\$ 81,945</u>	<u>\$ —</u>	<u>\$ 9,885</u>	<u>\$ 1,170,922</u>	<u>\$ 1,444,817</u>
For the year ended:								
Scheduled	\$ 253,290	\$ 36,484	\$ 158,548	\$ 130,722	\$ 58,821	\$ 33,047	\$ 2,822,608	\$ 3,493,520
Unscheduled	293,719	27,021	231,221	165,993	90,272	120,022	9,760	938,008
December 31, 2018	<u>\$ 547,009</u>	<u>\$ 63,505</u>	<u>\$ 389,769</u>	<u>\$ 296,715</u>	<u>\$ 149,093</u>	<u>\$ 153,069</u>	<u>\$ 2,832,368</u>	<u>\$ 4,431,528</u>
Scheduled	\$ 179,890	\$ 46,406	\$ 148,411	\$ 118,035	\$ 54,415	\$ 72,256	\$ 1,660,661	\$ 2,280,074
Unscheduled	265,376	35,524	280,399	155,810	6,147	—	106,059	849,315
December 31, 2017	<u>\$ 445,266</u>	<u>\$ 81,930</u>	<u>\$ 428,810</u>	<u>\$ 273,845</u>	<u>\$ 60,562</u>	<u>\$ 72,256</u>	<u>\$ 1,766,720</u>	<u>\$ 3,129,389</u>

Table 25

Lines of Business - Outstanding Business Volume							
Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	Total
Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	
(in thousands)							

As of:

June 30, 2019	\$4,754,258	\$ 121,064	\$2,416,030	\$ 2,521,394	\$ 1,527,150	\$ 628,521	\$ 8,778,318	\$ 20,746,735
March 31, 2019	4,610,897	128,221	2,476,467	2,484,779	1,429,101	645,613	8,731,835	20,506,913
December 31, 2018	4,588,322	135,862	2,509,787	2,515,620	938,843	653,273	8,382,817	19,724,524
September 30, 2018	4,420,619	287,594	2,363,805	2,471,251	962,702	669,335	8,365,280	19,540,586
June 30, 2018	4,378,958	297,833	2,368,606	2,418,115	991,819	677,621	8,391,885	19,524,837
March 31, 2018	4,274,359	314,497	2,343,146	2,391,739	1,043,477	686,320	8,325,905	19,379,443
December 31, 2017	4,198,733	333,511	2,335,342	2,352,214	1,076,291	806,342	7,904,878	19,007,311
September 30, 2017	4,068,893	354,823	2,133,314	2,298,956	1,066,482	819,963	7,901,842	18,644,273
June 30, 2017	3,882,474	367,419	2,176,625	2,237,013	1,024,130	859,779	7,711,418	18,258,858

Table 26

On-Balance Sheet Outstanding Business Volume				
	Fixed Rate	5- to 10-Year ARMs & Resets	1-Month to 3-Year ARMs	Total Held in Portfolio
	<i>(in thousands)</i>			

As of:

June 30, 2019	\$ 9,446,117	\$ 2,825,151	\$ 4,601,917	\$ 16,873,185
March 31, 2019	9,206,082	2,720,639	4,643,506	16,570,227
December 31, 2018	8,325,347	2,717,505	4,705,169	15,748,021
September 30, 2018	7,945,007	2,629,612	4,986,987	15,561,606
June 30, 2018	7,551,149	2,594,399	5,398,021	15,543,569
March 31, 2018	7,507,581	2,498,985	5,432,923	15,439,489
December 31, 2017	7,158,014	2,499,203	5,309,126	14,966,343
September 30, 2017	6,921,477	2,447,923	5,426,757	14,796,157
June 30, 2017	6,722,463	2,406,120	5,226,982	14,355,565

The following table presents the quarterly net effective spread (a non-GAAP measure) by segment:

Table 27

	Net Effective Spread by Line of Business											
	Farm & Ranch		USDA Guarantees		Rural Utilities		Institutional Credit		Corporate		Net Effective Spread	
	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield
	(dollars in thousands)											
For the quarter ended:												
June 30, 2019 ⁽¹⁾	\$ 13,335	1.72%	\$ 4,097	0.76%	\$ 3,996	1.10%	\$ 17,371	0.82%	\$ 2,556	0.34%	\$ 41,355	0.91%
March 31, 2019	12,737	1.70%	3,964	0.74%	3,233	1.12%	16,373	0.79%	2,494	0.35%	38,801	0.89%
December 31, 2018	13,288	1.79%	4,630	0.85%	2,833	1.19%	15,751	0.80%	2,353	0.36%	38,855	0.93%
September 30, 2018	13,887	1.91%	4,627	0.86%	2,877	1.18%	15,642	0.78%	2,044	0.30%	39,077	0.93%
June 30, 2018 ⁽¹⁾	13,347	1.86%	4,398	0.83%	2,923	1.15%	15,220	0.76%	274	0.04%	36,162	0.86%
March 31, 2018	12,540	1.80%	4,400	0.82%	2,950	1.12%	14,824	0.78%	2,387	0.36%	37,101	0.91%
December 31, 2017	12,396	1.80%	4,979	0.93%	3,057	1.14%	14,800	0.78%	2,235	0.35%	37,467	0.93%
September 30, 2017	11,303	1.73%	4,728	0.90%	2,765	1.07%	14,455	0.78%	2,725	0.41%	35,976	0.91%
June 30, 2017	11,158	1.77%	4,551	0.87%	2,669	1.06%	14,467	0.81%	2,489	0.36%	35,334	0.91%

⁽¹⁾ See Note 9 to the consolidated financial statements for a reconciliation of GAAP net interest income by line of business to net effective spread by line of business for the three months ended June 30, 2019 and 2018.

The following table presents quarterly core earnings (a non-GAAP measure) reconciled to net income attributable to common stockholders:

Table 28

Core Earnings by Quarter Ended									
	June 2019	March 2019	December 2018	September 2018	June 2018	March 2018	December 2017	September 2017	June 2017
Revenues:									
Net effective spread	\$ 41,355	\$ 38,801	\$ 38,855	\$ 39,077	\$ 36,162	\$ 37,101	\$ 37,467	\$ 35,976	\$ 35,334
Guarantee and commitment fees	5,276	5,419	5,309	5,170	5,171	5,083	5,157	4,935	4,942
Other	777	509	(129)	110	111	428	69	274	107
Total revenues	47,408	44,729	44,035	44,357	41,444	42,612	42,693	41,185	40,383
Credit related expense/(income):									
Provision for/(release of) losses	420	(393)	166	(3)	582	(410)	464	384	466
REO operating expenses	64	—	—	—	—	16	—	—	23
Losses/(gains) on sale of REO	—	—	—	41	(34)	—	(964)	(32)	(757)
Total credit related expense/(income)	484	(393)	166	38	548	(394)	(500)	352	(268)
Operating expenses:									
Compensation and employee benefits	6,770	7,606	7,167	6,777	6,936	6,654	5,247	5,987	6,682
General and administrative	4,689	4,596	5,829	4,350	5,202	4,326	4,348	3,890	3,921
Regulatory fees	687	688	687	625	625	625	625	625	625
Total operating expenses	12,146	12,890	13,683	11,752	12,763	11,605	10,220	10,502	11,228
Net earnings	34,778	32,232	30,186	32,567	28,133	31,401	32,973	30,331	29,423
Income tax expense	7,351	6,715	6,431	6,891	5,477	6,259	11,796	10,268	10,307
Net loss attributable to non-controlling interest ⁽¹⁾	—	—	—	—	—	—	—	—	(150)
Preferred stock dividends	3,785	3,296	3,296	3,295	3,296	3,295	3,296	3,295	3,296
Core earnings	<u>\$ 23,642</u>	<u>\$ 22,221</u>	<u>\$ 20,459</u>	<u>\$ 22,381</u>	<u>\$ 19,360</u>	<u>\$ 21,847</u>	<u>\$ 17,881</u>	<u>\$ 16,768</u>	<u>\$ 15,970</u>
Reconciling items:									
Gains/(losses) on undesignated financial derivatives due to fair value changes	10,485	2,240	(96)	3,625	6,709	(2,279)	(261)	995	801
(Losses)/gains on hedging activities due to fair value changes	(1,438)	(2,817)	(853)	1,051	1,687	2,564	(3)	1,742	1,420
Unrealized gains/(losses) on trading assets	61	44	57	(3)	11	16	60	—	(2)
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(139)	(16)	67	(38)	196	(686)	(129)	(954)	(117)
Net effects of terminations or net settlements on financial derivatives	(592)	110	(312)	546	232	1,242	632	862	232
Issuance costs on the retirement of preferred stock	(1,956)	—	—	—	—	—	—	—	—
Re-measurement of net deferred tax asset due to enactment of new tax legislation	—	—	—	—	—	—	(1,365)	—	—
Income tax effect related to reconciling items	(1,759)	92	238	(1,088)	(1,855)	(180)	(105)	(926)	(816)
Net income attributable to common stockholders	<u>\$ 28,304</u>	<u>\$ 21,874</u>	<u>\$ 19,560</u>	<u>\$ 26,474</u>	<u>\$ 26,340</u>	<u>\$ 22,524</u>	<u>\$ 16,710</u>	<u>\$ 18,487</u>	<u>\$ 17,488</u>

⁽¹⁾ As of May 1, 2017, Farmer Mac transferred its entire 65% ownership interest in AgVisory back to the limited liability company. Before then, AgVisory was a majority-owned subsidiary of Farmer Mac that operated an agricultural real estate appraisal business.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Farmer Mac is exposed to market risk from changes in interest rates. Farmer Mac manages this market risk by entering into various financial transactions, including financial derivatives, and by monitoring and measuring its exposure to changes in interest rates. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Interest Rate Risk" for more information about Farmer Mac's exposure to interest rate risk and its strategies to manage that risk. For information about Farmer Mac's use of financial derivatives and related accounting policies, see Note 4 to the consolidated financial statements.

Item 4. Controls and Procedures

Management's Evaluation of Disclosure Controls and Procedures. Farmer Mac maintains disclosure controls and procedures designed to ensure that information required to be disclosed in its periodic filings under the Securities Exchange Act of 1934 (the "Exchange Act"), including this Quarterly Report on Form 10-Q, is recorded, processed, summarized, and reported on a timely basis. These disclosure controls and procedures include controls and procedures designed to ensure that information required to be disclosed under the Exchange Act is accumulated and communicated to Farmer Mac's management on a timely basis to allow decisions about required disclosure. Management, including Farmer Mac's principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of Farmer Mac's disclosure controls and procedures (as defined under Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of June 30, 2019.

Farmer Mac carried out the evaluation of the effectiveness of its disclosure controls and procedures, required by paragraph (b) of Exchange Act Rules 13a-15 and 15d-15, under the supervision and with the participation of management, including the principal executive officer and principal financial officer. Based upon this evaluation, the principal executive officer and principal financial officer concluded that Farmer Mac's disclosure controls and procedures were effective as of June 30, 2019.

Changes in Internal Control Over Financial Reporting. There were no changes in Farmer Mac's internal control over financial reporting during the three months ended June 30, 2019 that have materially affected, or are reasonably likely to materially affect, Farmer Mac's internal control over financial reporting.

PART II

Item 1. Legal Proceedings

None.

Item 1A. Risk Factors

There were no material changes from the risk factors previously disclosed in Farmer Mac's Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on February 21, 2019.

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

(a) Farmer Mac is a federally chartered instrumentality of the United States whose debt and equity securities are exempt from registration under Section 3(a)(2) of the Securities Act of 1933. During second quarter 2019, the following transactions occurred related to Farmer Mac's equity securities that were not registered under the Securities Act of 1933 and were not otherwise reported on a Current Report on Form 8-K:

Class C Non-Voting Common Stock. Under Farmer Mac's policy that permits directors of Farmer Mac to elect to receive shares of Class C non-voting common stock in lieu of their cash retainers, Farmer Mac issued an aggregate of 50 shares of its Class C non-voting common stock on April 2, 2019 to the three directors who elected to receive stock in lieu of their cash retainers. Farmer Mac calculated the number of shares issued to the directors based on a price of \$72.43 per share, which was the closing price of the Class C non-voting common stock on March 29, 2019 (the last trading day of the previous quarter) as reported by the New York Stock Exchange.

On April 15, 2019, Farmer Mac granted an aggregate of 12,182 shares of restricted Class C non-voting common stock under its Amended and Restated 2008 Omnibus Incentive plan at a grant price of \$75.64 per share to 31 employees as incentive compensation. All of these shares of restricted stock granted to each employee will "cliff" vest on April 15, 2022 if the employee remains employed by Farmer Mac on that date.

(b) Not applicable.

(c) None.

Item 3. Defaults Upon Senior Securities

(a) None.

(b) None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

(a) None.

(b) None.

Item 6. Exhibits

*	3.1	—	<u>Title VIII of the Farm Credit Act of 1971, as most recently amended by the Agricultural Improvement Act of 2018 (Previously filed as Exhibit 3.1 to Form 10-K filed February 21, 2019).</u>
*	3.2	—	<u>Amended and Restated By-Laws of the Registrant (Previously filed as Exhibit 3.1 to Form 8-K filed May 9, 2019).</u>
*	4.1	—	<u>Specimen Certificate for Farmer Mac Class A Voting Common Stock (Previously filed as Exhibit 4.1 to Form 10-Q filed May 15, 2003).</u>
*	4.2	—	<u>Specimen Certificate for Farmer Mac Class B Voting Common Stock (Previously filed as Exhibit 4.2 to Form 10-Q filed May 15, 2003).</u>
*	4.3	—	<u>Specimen Certificate for Farmer Mac Class C Non-Voting Common Stock (Previously filed as Exhibit 4.3 to Form 10-Q filed May 15, 2003).</u>
*	4.4	—	<u>Specimen Certificate for 5.875% Non-Cumulative Preferred Stock, Series A (Previously filed as Exhibit 4.4.1 to Form 10-Q filed May 9, 2013).</u>
*	4.4.1	—	<u>Certificate of Designation of Terms and Conditions of 5.875% Non-Cumulative Preferred Stock, Series A (Previously filed as Exhibit 4.1 to Form 8-A filed January 17, 2013).</u>
*	4.5	—	<u>Specimen Certificate for 6.875% Non-Cumulative Preferred Stock, Series B (Previously filed as Exhibit 4.5 to Form 10-Q filed May 12, 2014).</u>
*	4.5.1	—	<u>Certificate of Designation of Terms and Conditions of 6.875% Non-Cumulative Preferred Stock, Series B (Previously filed as Exhibit 4.1 to Form 8-A filed March 25, 2014).</u>
*	4.6	—	<u>Specimen Certificate for 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C (Previously filed as Exhibit 4.6 to Form 10-Q filed August 11, 2014).</u>
*	4.6.1	—	<u>Certificate of Designation of Terms and Conditions of 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C (Previously filed as Exhibit 4.1 to Form 8-A filed June 20, 2014).</u>
**	4.7	—	<u>Specimen Certificate for 5.700% Non-Cumulative Preferred Stock, Series D.</u>
*	4.7.1	—	<u>Certificate of Designation of Terms and Conditions of 5.700% Non-Cumulative Preferred Stock, Series D (previously filed as Exhibit 4.1 to Form 8-A filed May 13, 2019).</u>
**	31.1	—	<u>Certification of Registrant's principal executive officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
**	31.2	—	<u>Certification of Registrant's principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
**	32	—	<u>Certification of Registrant's principal executive officer and principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>

* Incorporated by reference to the indicated prior filing.

** Filed with this report.

SIGNATURES

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION

/s/ Bradford T. Nordholm

August 1, 2019

By: Bradford T. Nordholm
President and Chief Executive Officer
(Principal Executive Officer)

Date

/s/ Gregory N. Ramsey

August 1, 2019

By: Gregory N. Ramsey
Vice President – Controller
(Principal Financial Officer)

Date