

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
Form 10-Q

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

For the quarterly period ended June 30, 2022

or

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

For the transition period from _____ to _____.

Commission File Number 001-14951

FARMER  **MAC**

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
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
5.750% Non-Cumulative Preferred Stock, Series E	AGM.PRE	New York Stock Exchange
5.250% Non-Cumulative Preferred Stock, Series F	AGM.PRF	New York Stock Exchange
4.875% Non-Cumulative Preferred Stock, Series G	AGM.PRG	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: Class B voting common stock

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 August 1, 2022, the registrant had outstanding 1,030,780 shares of Class A voting common stock, 500,301 shares of Class B voting common stock, and 9,266,338 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, 2022	December 31, 2021
	(in thousands)	
Assets:		
Cash and cash equivalents	\$ 909,430	\$ 908,785
Investment securities:		
Available-for-sale, at fair value (amortized cost of \$4,354,855 and \$3,834,714, respectively)	4,246,012	3,836,391
Held-to-maturity, at amortized cost	45,032	44,970
Other investments	1,537	1,229
Total Investment Securities	4,292,581	3,882,590
Farmer Mac Guaranteed Securities:		
Available-for-sale, at fair value (amortized cost of \$6,679,196 and \$6,135,807, respectively)	6,450,212	6,328,559
Held-to-maturity, at amortized cost	1,689,469	2,033,239
Total Farmer Mac Guaranteed Securities	8,139,681	8,361,798
USDA Securities:		
Trading, at fair value	2,275	4,401
Held-to-maturity, at amortized cost	2,430,830	2,436,331
Total USDA Securities	2,433,105	2,440,732
Loans:		
Loans held for investment, at amortized cost	8,911,475	8,314,096
Loans held for investment in consolidated trusts, at amortized cost	834,941	948,623
Allowance for losses	(12,403)	(14,041)
Total loans, net of allowance	9,734,013	9,248,678
Financial derivatives, at fair value	30,011	19,139
Interest receivable (includes \$7,664 and \$10,418, respectively, related to consolidated trusts)	177,956	177,355
Guarantee and commitment fees receivable	44,388	45,538
Deferred tax asset, net	25,971	15,558
Prepaid expenses and other assets	129,267	45,318
Total Assets	\$ 25,916,403	\$ 25,145,491
Liabilities and Equity:		
Liabilities:		
Notes payable	\$ 23,474,095	\$ 22,716,156
Debt securities of consolidated trusts held by third parties	866,107	981,379
Financial derivatives, at fair value	127,983	34,248
Accrued interest payable (includes \$6,753 and \$9,619, respectively, related to consolidated trusts)	93,823	83,992
Guarantee and commitment obligation	42,990	43,926
Accounts payable and accrued expenses	97,380	79,427
Reserve for losses	1,677	1,950
Total Liabilities	24,704,055	23,941,078
Commitments and Contingencies (Note 6)		
Equity:		
Preferred stock:		
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	96,659
Series E, par value \$25 per share, 3,180,000 shares authorized, issued and outstanding	77,003	77,003
Series F, par value \$25 per share, 4,800,000 shares authorized, issued and outstanding	116,160	116,160
Series G, par value \$25 per share, 5,000,000 shares authorized, issued and outstanding	121,327	121,327
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, 9,265,842 shares and 9,235,205 shares outstanding, respectively	9,266	9,235
Additional paid-in capital	127,569	125,993
Accumulated other comprehensive (loss)/income, net of tax	(49,484)	3,853
Retained earnings	638,935	579,270
Total Equity	1,212,348	1,204,413
Total Liabilities and Equity	\$ 25,916,403	\$ 25,145,491

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, 2022	June 30, 2021	June 30, 2022	June 30, 2021
(in thousands, except per share amounts)				
Interest income:				
Investments and cash equivalents	\$ 11,200	\$ 4,457	\$ 16,916	\$ 9,986
Farmer Mac Guaranteed Securities and USDA Securities	57,104	42,414	96,361	84,818
Loans	76,632	60,214	143,879	119,708
Total interest income	144,936	107,085	257,156	214,512
Total interest expense	75,534	51,956	125,879	106,132
Net interest income	69,402	55,129	131,277	108,380
Release of/(provision for) losses	1,372	761	1,316	(152)
Net interest income after release of/(provision for) losses	70,774	55,890	132,593	108,228
Non-interest income/(expense):				
Guarantee and commitment fees	3,213	2,997	6,908	6,027
Gains/(losses) on financial derivatives	3,418	(3,066)	19,492	1,227
Gains/(losses) on trading securities	29	(62)	(34)	(75)
Release of reserve for losses	163	222	273	1,166
Other income	479	435	1,154	1,018
Non-interest income	7,302	526	27,793	9,363
Operating expenses:				
Compensation and employee benefits	11,715	9,779	25,013	21,574
General and administrative	7,520	6,349	14,798	12,685
Regulatory fees	813	750	1,625	1,500
Operating expenses	20,048	16,878	41,436	35,759
Income before income taxes	58,028	39,538	118,950	81,832
Income tax expense	12,132	8,252	25,217	17,319
Net income	45,896	31,286	93,733	64,513
Preferred stock dividends	(6,792)	(5,842)	(13,583)	(11,111)
Net income attributable to common stockholders	\$ 39,104	\$ 25,444	\$ 80,150	\$ 53,402
Earnings per common share:				
Basic earnings per common share	\$ 3.62	\$ 2.36	\$ 7.43	\$ 4.96
Diluted earnings per common share	\$ 3.60	\$ 2.35	\$ 7.37	\$ 4.93

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, 2022	June 30, 2021	June 30, 2022	June 30, 2021
	<i>(in thousands)</i>			
Net income	\$ 45,896	\$ 31,286	\$ 93,733	\$ 64,513
Other comprehensive (loss)/income:				
Net unrealized (losses)/gains on available-for-sale securities	(30,179)	(37,389)	(116,446)	28,975
Net changes in held-to-maturity securities	865	(1,653)	842	(3,810)
Net unrealized gains/(losses) on cash flow hedges	16,884	(5,274)	48,088	13,641
Other comprehensive (loss)/income before tax	(12,430)	(44,316)	(67,516)	38,806
Income tax benefit/(expense) related to other comprehensive (loss)/income	2,611	9,305	14,179	(8,150)
Other comprehensive (loss)/income net of tax	(9,819)	(35,011)	(53,337)	30,656
Comprehensive income/(loss)	<u>\$ 36,077</u>	<u>\$ (3,725)</u>	<u>\$ 40,396</u>	<u>\$ 95,169</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
						Income/(Loss)		
	<i>(in thousands)</i>							
Balance as of December 31, 2021	19,980	\$ 484,531	10,766	\$ 10,766	\$ 125,993	\$ 3,853	\$ 579,270	\$1,204,413
Net Income	—	—	—	—	—	—	47,837	47,837
Other comprehensive loss, net of tax	—	—	—	—	—	(43,518)	—	(43,518)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(6,791)	(6,791)
Common stock (cash dividend of \$0.95 per share)	—	—	—	—	—	—	(10,229)	(10,229)
Issuance of Class C Common Stock	—	—	22	22	46	—	—	68
Stock-based compensation cost	—	—	—	—	2,113	—	—	2,113
Other stock-based award activity	—	—	—	—	(1,049)	—	—	(1,049)
Balance as of March 31, 2022	19,980	\$ 484,531	10,788	\$ 10,788	\$ 127,103	\$ (39,665)	\$ 610,087	\$1,192,844
Net Income	—	—	—	—	—	—	45,896	45,896
Other comprehensive loss, net of tax	—	—	—	—	—	(9,819)	—	(9,819)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(6,792)	(6,792)
Common stock (cash dividend of \$0.95 per share)	—	—	—	—	—	—	(10,256)	(10,256)
Issuance of Class C Common Stock	—	—	9	9	46	—	—	55
Stock-based compensation cost	—	—	—	—	862	—	—	862
Other stock-based award activity	—	—	—	—	(442)	—	—	(442)
Balance as of June 30, 2022	<u>19,980</u>	<u>\$ 484,531</u>	<u>10,797</u>	<u>\$ 10,797</u>	<u>\$ 127,569</u>	<u>\$ (49,484)</u>	<u>\$ 638,935</u>	<u>\$1,212,348</u>
Balance as of December 31, 2020	14,980	\$ 363,204	10,737	\$ 10,737	\$ 122,899	\$ (13,923)	\$ 509,560	\$ 992,477
Net Income	—	—	—	—	—	—	33,227	33,227
Other comprehensive income, net of tax	—	—	—	—	—	65,667	—	65,667
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(5,269)	(5,269)
Common stock (cash dividend of \$0.88 per share)	—	—	—	—	—	—	(9,450)	(9,450)
Issuance of Class C Common Stock	—	—	21	21	12	—	—	33
Stock-based compensation cost	—	—	—	—	1,665	—	—	1,665
Other stock-based award activity	—	—	—	—	(858)	—	—	(858)
Balance as of March 31, 2021	14,980	\$ 363,204	10,758	\$ 10,758	\$ 123,718	\$ 51,744	\$ 528,068	\$1,077,492
Net Income	—	—	—	—	—	—	31,286	31,286
Other comprehensive loss, net of tax	—	—	—	—	—	(35,011)	—	(35,011)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(5,842)	(5,842)
Common stock (cash dividend of \$0.88 per share)	—	—	—	—	—	—	(9,474)	(9,474)
Issuance of Series G Preferred Stock	5,000	121,327	—	—	—	—	—	121,327
Issuance of Class C Common Stock	—	—	7	7	13	—	—	20
Stock-based compensation cost	—	—	—	—	891	—	—	891
Other stock-based award activity	—	—	—	—	(474)	—	—	(474)
Balance as of June 30, 2021	<u>19,980</u>	<u>\$ 484,531</u>	<u>10,765</u>	<u>\$ 10,765</u>	<u>\$ 124,148</u>	<u>\$ 16,733</u>	<u>\$ 544,038</u>	<u>\$1,180,215</u>

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

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

	For the Six Months Ended	
	June 30, 2022	June 30, 2021
	<i>(in thousands)</i>	
Cash flows from operating activities:		
Net income	\$ 93,733	\$ 64,513
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	2,819	9,619
Amortization of debt premiums, discounts, and issuance costs	5,655	3,602
Net change in fair value of trading securities, hedged assets, and financial derivatives	461,598	178,314
Total release of allowance for losses	(1,589)	(1,014)
Excess tax benefits related to stock-based awards	(64)	292
Deferred income taxes	3,765	(27)
Stock-based compensation expense	2,975	2,557
Proceeds from repayment of loans purchased as held for sale	17,381	30,062
Net change in:		
Interest receivable	(739)	24,025
Guarantee and commitment fees receivable	214	144
Other assets	(89,794)	3,680
Accrued interest payable	9,831	(10,678)
Custodial deposit liability	(11,070)	—
Other liabilities	31,295	684
Net cash provided by operating activities	526,010	305,773
Cash flows from investing activities:		
Purchases of available-for-sale investment securities	(1,439,695)	(893,754)
Purchases of other investment securities	(308)	(403)
Purchases of Farmer Mac Guaranteed Securities and USDA Securities	(3,061,500)	(1,168,827)
Purchases of loans held for investment	(1,466,667)	(1,417,958)
Purchases of defaulted loans	—	(8,713)
Proceeds from repayment of available-for-sale investment securities	917,618	884,489
Proceeds from repayment of Farmer Mac Guaranteed Securities and USDA Securities	2,867,305	1,305,719
Proceeds from repayment of loans purchased as held for investment	726,196	1,014,805
Proceeds from sale of loans previously classified as held for investment	9,000	—
Proceeds from sale of available-for-sale investment securities	—	25,573
Proceeds from sale of Farmer Mac Guaranteed Securities	25,928	49,133
Net cash (used in)/provided by investing activities	(1,422,123)	(209,936)
Cash flows from financing activities:		
Proceeds from issuance of discount notes	27,110,295	31,775,475
Proceeds from issuance of medium-term notes	4,797,774	6,578,677
Payments to redeem discount notes	(27,804,791)	(31,895,655)
Payments to redeem medium-term notes	(3,029,315)	(6,574,370)
Payments to third parties on debt securities of consolidated trusts	(141,769)	(276,089)
Proceeds from common stock issuance	92	25
Proceeds from preferred stock issuance, net of stock issuance costs	—	121,327
Tax payments related to share-based awards	(1,460)	(1,305)
Dividends paid on common and preferred stock	(34,068)	(29,460)
Net cash provided by/(used in) financing activities	896,758	(301,375)
Net change in cash and cash equivalents	645	(205,538)
Cash and cash equivalents at beginning of period	908,785	1,033,941
Cash and cash equivalents at end of period	\$ 909,430	\$ 828,403
Non-cash activity:		
Loans acquired and securitized as Farmer Mac Guaranteed Securities	25,928	49,133
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	25,928	49,133
Reclassification of defaulted loans from loans held for investment in consolidated trusts to loans held for investment	569	23,463
Capitalized interest	443	1,037
Charge-off from the allowance for losses	84	—

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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, 2021 consolidated balance sheet presented in this report has been derived from Farmer Mac's audited 2021 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 2021 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, 2021, as filed with the SEC on February 28, 2022. 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, 2022.

Principles of Consolidation

The consolidated financial statements include the accounts of Farmer Mac and its two subsidiaries: (1) Farmer Mac Mortgage Securities Corporation, 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 Securities included in the Agricultural Finance line of business. The consolidated financial statements also include the accounts of Variable Interest Entities ("VIEs") in which Farmer Mac determined itself to be the primary beneficiary.

Table 1.1

	Consolidation of Variable Interest Entities		
	As of June 30, 2022		
	Agricultural Finance	Treasury	Total
	(in thousands)		
On-Balance Sheet:			
Consolidated VIEs:			
Loans held for investment in consolidated trusts, at amortized cost	\$ 834,941	\$ —	\$ 834,941
Debt securities of consolidated trusts held by third parties ⁽¹⁾	866,107	—	866,107
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Carrying value	31,425	—	31,425
Maximum exposure to loss ⁽²⁾	33,200	—	33,200
Investment securities:			
Carrying value ⁽³⁾	—	2,720,813	2,720,813
Maximum exposure to loss ⁽²⁾⁽³⁾	—	2,813,424	2,813,424
Off-Balance Sheet:			
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Maximum exposure to loss ⁽²⁾⁽⁴⁾	523,580	—	523,580

⁽¹⁾ Includes borrower remittances of \$31.2 million. The borrower remittances had not been passed through to third-party investors as of June 30, 2022.

⁽²⁾ Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.

⁽³⁾ Includes auction-rate certificates, government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities, and other mission related investments.

⁽⁴⁾ The amount under the Agricultural Finance line of business relates to unconsolidated trusts where it was determined that Farmer Mac was either not the primary beneficiary due to shared power with an unrelated party or a subordinate class majority holder has the unilateral right to remove Farmer Mac as Master Servicer without cause.

	Consolidation of Variable Interest Entities		
	As of December 31, 2021		
	Agricultural Finance	Treasury	Total
	(in thousands)		
On-Balance Sheet:			
Consolidated VIEs:			
Loans held for investment in consolidated trusts, at amortized cost	\$ 948,623	\$ —	\$ 948,623
Debt securities of consolidated trusts held by third parties ⁽¹⁾	981,379	—	981,379
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Carrying value	42,298	—	42,298
Maximum exposure to loss ⁽²⁾	42,155	—	42,155
Investment securities:			
Carrying value ⁽³⁾	—	2,258,219	2,258,219
Maximum exposure to loss ^{(2) (3)}	—	2,246,272	2,246,272
Off-Balance Sheet:			
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Maximum exposure to loss ^{(2) (4)}	578,358	—	578,358

⁽¹⁾ Includes borrower remittances of \$32.8 million. The borrower remittances had not been passed through to third-party investors as of December 31, 2021.

⁽²⁾ Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.

⁽³⁾ Includes auction-rate certificates, government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities, and other mission related investments.

⁽⁴⁾ The amount under the Agricultural Finance line of business relates to unconsolidated trusts where it was determined that Farmer Mac was either not the primary beneficiary due to shared power with an unrelated party or a subordinate class majority holder has the unilateral right to remove Farmer Mac as Master Servicer without cause.

(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, 2022 and 2021:

Table 1.2

	For the Three Months Ended					
	June 30, 2022			June 30, 2021		
	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	\$ 39,104	10,796	\$ 3.62	\$ 25,444	10,763	\$ 2.36
Effect of dilutive securities ⁽¹⁾						
SARs and restricted stock	—	68	(0.02)	—	75	(0.01)
Diluted EPS	<u>\$ 39,104</u>	<u>10,864</u>	<u>\$ 3.60</u>	<u>\$ 25,444</u>	<u>10,838</u>	<u>\$ 2.35</u>

⁽¹⁾ For the three months ended June 30, 2022 and 2021, SARs and restricted stock of 42,922 and 29,043, 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, 2022 and 2021 contingent shares of unvested restricted stock of 18,535 and 18,183 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, 2022			June 30, 2021		
	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	\$ 80,150	10,782	\$ 7.43	\$ 53,402	10,751	\$ 4.96
Effect of dilutive securities ⁽¹⁾						
SARs and restricted stock	—	94	(0.06)	—	78	(0.03)
Diluted EPS	<u>\$ 80,150</u>	<u>10,876</u>	<u>\$ 7.37</u>	<u>\$ 53,402</u>	<u>10,829</u>	<u>\$ 4.93</u>

⁽¹⁾ For the six months ended June 30, 2022 and 2021, SARs and restricted stock of 46,464 and 64,364, 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, 2022 and 2021 contingent shares of unvested restricted stock of 18,535 and 18,183 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, 2022 and 2021.

Table 1.3

	As of June 30, 2022				As of June 30, 2021			
	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	\$ (75,083)	\$ 16,134	\$ 19,284	\$ (39,665)	\$ 38,491	\$ 21,125	\$ (7,872)	\$ 51,744
Other comprehensive (loss)/ income before reclassifications	(23,839)	—	12,426	(11,413)	(28,751)	—	(5,570)	(34,321)
Amounts reclassified from AOCI	(2)	684	912	1,594	(786)	(1,306)	1,402	(690)
Net comprehensive (loss)/ income	(23,841)	684	13,338	(9,819)	(29,537)	(1,306)	(4,168)	(35,011)
Ending Balance	<u>\$ (98,924)</u>	<u>\$ 16,818</u>	<u>\$ 32,622</u>	<u>\$ (49,484)</u>	<u>\$ 8,954</u>	<u>\$ 19,819</u>	<u>\$ (12,040)</u>	<u>\$ 16,733</u>
For the Six Months Ended								
Beginning Balance	\$ (6,932)	\$ 16,153	\$ (5,368)	\$ 3,853	\$ (13,937)	\$ 22,829	\$ (22,815)	\$ (13,923)
Other comprehensive (loss)/ income before reclassifications	(91,986)	—	35,489	(56,497)	24,459	—	7,993	32,452
Amounts reclassified from AOCI	(6)	665	2,501	3,160	(1,568)	(3,010)	2,782	(1,796)
Net comprehensive (loss)/ income	(91,992)	665	37,990	(53,337)	22,891	(3,010)	10,775	30,656
Ending Balance	<u>\$ (98,924)</u>	<u>\$ 16,818</u>	<u>\$ 32,622</u>	<u>\$ (49,484)</u>	<u>\$ 8,954</u>	<u>\$ 19,819</u>	<u>\$ (12,040)</u>	<u>\$ 16,733</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, 2022 and 2021:

Table 1.4

	For the Three Months Ended					
	June 30, 2022			June 30, 2021		
	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 on available-for-sale securities	\$ (30,176)	\$ (6,337)	\$ (23,839)	\$ (36,395)	\$ (7,644)	\$ (28,751)
Less reclassification adjustments included in:						
Net interest income ⁽¹⁾	—	—	—	(987)	(207)	(780)
Other income ⁽²⁾	(3)	(1)	(2)	(7)	(1)	(6)
Total	\$ (30,179)	\$ (6,338)	\$ (23,841)	\$ (37,389)	\$ (7,852)	\$ (29,537)
Held-to-maturity securities:						
Less reclassification adjustments included in:						
Net interest income ⁽³⁾	865	181	684	(1,653)	(347)	(1,306)
Total	\$ 865	\$ 181	\$ 684	\$ (1,653)	\$ (347)	\$ (1,306)
Cash flow hedges						
Unrealized gains/(losses) on cash flow hedges	\$ 15,729	\$ 3,303	\$ 12,426	\$ (7,050)	\$ (1,480)	\$ (5,570)
Less reclassification adjustments included in:						
Net interest income ⁽⁴⁾	1,155	243	912	1,776	374	1,402
Total	\$ 16,884	\$ 3,546	\$ 13,338	\$ (5,274)	\$ (1,106)	\$ (4,168)
Other comprehensive loss	\$ (12,430)	\$ (2,611)	\$ (9,819)	\$ (44,316)	\$ (9,305)	\$ (35,011)

⁽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, 2022			June 30, 2021			
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	\$ (116,439)	\$ (24,453)	\$ (91,986)	\$ 30,961	\$ 6,502	\$ 24,459
Less reclassification adjustments included in:						
Net interest income ⁽¹⁾	—	—	—	(1,971)	(415)	(1,556)
Other income ⁽²⁾	(7)	(1)	(6)	(15)	(3)	(12)
Total	<u>\$ (116,446)</u>	<u>\$ (24,454)</u>	<u>\$ (91,992)</u>	<u>\$ 28,975</u>	<u>\$ 6,084</u>	<u>\$ 22,891</u>
Held-to-maturity securities:						
Less reclassification adjustments included in:						
Net interest income ⁽³⁾	842	177	665	(3,810)	(800)	(3,010)
Total	<u>\$ 842</u>	<u>\$ 177</u>	<u>\$ 665</u>	<u>\$ (3,810)</u>	<u>\$ (800)</u>	<u>\$ (3,010)</u>
Cash flow hedges						
Unrealized gains on cash flow hedges	\$ 44,922	\$ 9,433	\$ 35,489	\$ 10,118	\$ 2,125	\$ 7,993
Less reclassification adjustments included in:						
Net interest income ⁽⁴⁾	3,166	665	2,501	3,523	741	2,782
Total	<u>\$ 48,088</u>	<u>\$ 10,098</u>	<u>\$ 37,990</u>	<u>\$ 13,641</u>	<u>\$ 2,866</u>	<u>\$ 10,775</u>
Other comprehensive (loss)/income	<u>\$ (67,516)</u>	<u>\$ (14,179)</u>	<u>\$ (53,337)</u>	<u>\$ 38,806</u>	<u>\$ 8,150</u>	<u>\$ 30,656</u>

⁽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 2020-04 and 2021-01 , Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting	The amendments in this Update provide optional guidance for a limited period of time to ease the potential burden in accounting for reference rate reform on financial reporting. They provide optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met.	January 1, 2020	Farmer Mac adopted optional expedients specific to discounting transition on a retrospective basis, and as a result of this election, the discounting transition did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows. Farmer Mac is exploring the adoption of additional optional expedients, including contract modification relief, and is not expected to have a material effect on Farmer Mac's financial position, results of operations, or cash flows.

Recently Issued Accounting Guidance

Standard	Description	Effect on Consolidated Financial Statements
ASU 2022-02 , Financial Instruments-Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures	The Update addresses and amends areas identified by the Financial Accounting Standards Board ("FASB") as part of its post-implementation review of the accounting standard that introduced the current expected credit losses ("CECL") model. The amendments eliminate the accounting guidance for troubled debt restructurings by creditors that have adopted the CECL model and enhance the disclosure requirements for loan refinancings and restructurings made with borrowers experiencing financial difficulty. In addition, the amendments require disclosure of current-period gross writeoffs for financing receivables and net investment in leases by year of origination in the vintage disclosures. ASU 2022-02 is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years for entities that have adopted the CECL accounting standard. Early adoption, however, is permitted if an entity has adopted the CECL accounting standard.	Farmer Mac is still assessing the impact of the new accounting standard but 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.

2. INVESTMENT SECURITIES

The following tables set forth information about Farmer Mac's available-for-sale and held-to-maturity investment securities as of June 30, 2022 and December 31, 2021:

Table 2.1

As of June 30, 2022							
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	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	\$ (48)	\$ —	\$ (591)	\$ 19,061
Floating rate Government/GSE guaranteed mortgage-backed securities	2,379,150	(216)	2,378,934	—	6,424	(12,899)	2,372,459
Fixed rate GSE guaranteed mortgage-backed securities	756,951	(597)	756,354	—	410	(79,086)	677,678
Fixed rate U.S. Treasuries	1,202,215	(2,348)	1,199,867	—	—	(23,053)	1,176,814
Total available-for-sale	4,358,016	(3,161)	4,354,855	(48)	6,834	(115,629)	4,246,012
Held-to-maturity:							
Floating rate Government/GSE guaranteed mortgage-backed securities ⁽³⁾	45,032	—	45,032	—	—	(361)	44,671
Total held-to-maturity	\$ 45,032	\$ —	\$ 45,032	\$ —	\$ —	\$ (361)	\$ 44,671

⁽¹⁾ Amounts presented exclude \$4.3 million of accrued interest receivable on investment securities as of June 30, 2022.

⁽²⁾ Represents the amount of impairment that has resulted from credit-related factors, and therefore was recognized in the consolidated statement of operations as a provision for losses. Amount excludes unrealized losses relating to non-credit factors.

⁽³⁾ The held-to-maturity investment securities had a weighted average yield of 1.8% as of June 30, 2022.

As of December 31, 2021							
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	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	\$ (52)	\$ —	\$ (394)	\$ 19,254
Floating rate Government/GSE guaranteed mortgage-backed securities	2,168,016	90	2,168,106	—	11,821	(1,096)	2,178,831
Fixed rate GSE guaranteed mortgage-backed securities	451,660	12,525	464,185	—	382	(5,730)	458,837
Fixed rate U.S. Treasuries	1,180,000	2,723	1,182,723	—	—	(3,254)	1,179,469
Total available-for-sale	3,819,376	15,338	3,834,714	(52)	12,203	(10,474)	3,836,391
Held-to-maturity:							
Floating rate Government/GSE guaranteed mortgage-backed securities ⁽³⁾	44,970	—	44,970	—	1,612	—	46,582
Total held-to-maturity	\$ 44,970	\$ —	\$ 44,970	\$ —	\$ 1,612	\$ —	\$ 46,582

⁽¹⁾ Amounts presented exclude \$4.3 million of accrued interest receivable on investment securities as of December 31, 2021.

⁽²⁾ Represents the amount of impairment that has resulted from credit-related factors, and therefore was recognized in the consolidated statement of operations as a provision for losses. Amount excludes unrealized losses relating to non-credit factors.

⁽³⁾ The held-to-maturity investment securities had a weighted average yield of 1.5% as of December 31, 2021.

Farmer Mac did not sell any securities from its available-for-sale investment portfolio during the three and six months ended June 30, 2022. During the three and six months ended June 30, 2021, Farmer Mac received proceeds of \$25.6 million from the sale of securities from its available-for-sale investment portfolio, resulting in a loss of \$2,900.

As of June 30, 2022 and December 31, 2021, unrealized losses on available-for-sale investment securities were as follows:

Table 2.2

	As of June 30, 2022			
	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
	(dollars in thousands)			
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,061	\$ (591)
Floating rate Government/GSE guaranteed mortgage-backed securities	1,727,629	(12,540)	28,656	(359)
Fixed rate Government/GSE guaranteed mortgage-backed securities	659,187	(79,086)	—	—
Fixed rate U.S. Treasuries	886,852	(16,158)	289,962	(6,895)
Total	<u>\$ 3,273,668</u>	<u>\$ (107,784)</u>	<u>\$ 337,679</u>	<u>\$ (7,845)</u>
Number of securities in loss position	160			25
	As of December 31, 2021			
	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
	(dollars in thousands)			
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,254	\$ (394)
Floating rate Government/GSE guaranteed mortgage-backed securities	459,195	(619)	37,307	(477)
Fixed rate Government/GSE guaranteed mortgage-backed securities	406,805	(5,730)	—	—
Fixed rate U.S. Treasuries	1,123,439	(3,070)	51,031	(184)
Total	<u>\$ 1,989,439</u>	<u>\$ (9,419)</u>	<u>\$ 107,592</u>	<u>\$ (1,055)</u>
Number of securities in loss position	69			24

The unrealized losses presented above are principally due to a general widening of market spreads and changes in the levels of interest rates from the dates of acquisition to June 30, 2022 and December 31, 2021, 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 both June 30, 2022 and December 31, 2021, 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, 2022 that is, on average, approximately 97.7% 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.

The amortized cost, fair value, and weighted-average yield of available-for-sale investment securities by remaining contractual maturity as of June 30, 2022 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, 2022		
	Available-for-Sale Securities		
	Amortized Cost	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 759,402	\$ 749,496	0.86%
Due after one year through five years	753,622	739,884	0.72%
Due after five years through ten years	2,151,242	2,063,410	1.54%
Due after ten years	690,589	693,222	1.35%
Total	<u>\$ 4,354,855</u>	<u>\$ 4,246,012</u>	1.25%

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, 2022 and December 31, 2021:

Table 3.1

	As of June 30, 2022						
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)						
Held-to-maturity:							
AgVantage	\$ 1,667,898	\$ —	\$ 1,667,898	\$ (39)	\$ 74	\$ (42,432)	\$ 1,625,501
Farmer Mac Guaranteed USDA Securities	21,640	(30)	21,610	—	10	(682)	20,938
Total Farmer Mac Guaranteed Securities	1,689,538	(30)	1,689,508	(39)	84	(43,114)	1,646,439
USDA Securities	2,405,519	25,311	2,430,830	—	369	(180,590)	2,250,609
Total held-to-maturity	<u>\$ 4,095,057</u>	<u>\$ 25,281</u>	<u>\$ 4,120,338</u>	<u>\$ (39)</u>	<u>\$ 453</u>	<u>\$ (223,704)</u>	<u>\$ 3,897,048</u>
Available-for-sale:							
AgVantage	\$ 6,666,474	\$ 1,161	\$ 6,667,635	\$ (597)	\$ 3,517	\$ (230,159)	\$ 6,440,396
Farmer Mac Guaranteed Securities ⁽³⁾	—	11,561	11,561	—	—	(1,745)	9,816
Total available-for-sale	<u>\$ 6,666,474</u>	<u>\$ 12,722</u>	<u>\$ 6,679,196</u>	<u>\$ (597)</u>	<u>\$ 3,517</u>	<u>\$ (231,904)</u>	<u>\$ 6,450,212</u>
Trading:							
USDA Securities ⁽⁴⁾	<u>\$ 2,248</u>	<u>\$ 93</u>	<u>\$ 2,341</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (66)</u>	<u>\$ 2,275</u>

⁽¹⁾ Amounts presented exclude \$36.4 million, \$34.0 million, and \$0.1 million of accrued interest receivable on available-for-sale, held-to-maturity, and trading securities, respectively, as of June 30, 2022.

⁽²⁾ Represents the amount of impairment that has resulted from credit-related factors, and therefore was recognized in the statement of financial operations as a provision for losses. Amount excludes unrealized losses relating to non-credit factors.

⁽³⁾ Fair value includes \$9.8 million of an interest-only security with a notional amount of \$255.7 million.

⁽⁴⁾ The trading USDA securities had a weighted average yield of 4.96% as of June 30, 2022.

As of December 31, 2021							
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	Unrealized Gains	Unrealized Losses	Fair Value
<i>(in thousands)</i>							
Held-to-maturity:							
AgVantage	\$ 2,003,486	\$ —	\$ 2,003,486	\$ (132)	\$ 10,097	\$ (12,764)	\$ 2,000,687
Farmer Mac Guaranteed USDA Securities	29,859	26	29,885	—	1,162	—	31,047
Total Farmer Mac Guaranteed Securities	2,033,345	26	2,033,371	(132)	11,259	(12,764)	2,031,734
USDA Securities	2,411,649	24,682	2,436,331	—	95,741	—	2,532,072
Total held-to-maturity	<u>\$ 4,444,994</u>	<u>\$ 24,708</u>	<u>\$ 4,469,702</u>	<u>\$ (132)</u>	<u>\$ 107,000</u>	<u>\$ (12,764)</u>	<u>\$ 4,563,806</u>
Available-for-sale:							
AgVantage	\$ 6,122,240	\$ 1,270	\$ 6,123,510	\$ (263)	\$ 212,908	\$ (20,010)	\$ 6,316,145
Farmer Mac Guaranteed Securities ⁽³⁾	—	12,297	12,297	—	117	—	\$ 12,414
Total available-for-sale	<u>\$ 6,122,240</u>	<u>\$ 13,567</u>	<u>\$ 6,135,807</u>	<u>\$ (263)</u>	<u>\$ 213,025</u>	<u>\$ (20,010)</u>	<u>\$ 6,328,559</u>
Trading:							
USDA Securities ⁽⁴⁾	<u>\$ 4,299</u>	<u>\$ 134</u>	<u>\$ 4,433</u>	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ (33)</u>	<u>\$ 4,401</u>

- (1) Amounts presented exclude \$29.8 million, \$42.1 million, and \$0.1 million of accrued interest receivable on available-for-sale, held-to-maturity, and trading securities, respectively, as of December 31, 2021.
- (2) Represents the amount of impairment that has resulted from credit-related factors, and therefore was recognized in the statement of financial operations as a provision for losses. Amount excludes unrealized losses relating to non-credit factors.
- (3) Fair value includes \$12.4 million of an interest-only security with a notional amount of \$275.4 million.
- (4) The trading USDA securities had a weighted average yield of 5.05% as of December 31, 2021.

As of June 30, 2022 and December 31, 2021, 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, 2022					
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	\$ 1,306,722	\$ (21,880)	\$ 204,448	\$ (20,552)	
Farmer Mac Guaranteed USDA Securities	19,608	(682)	—	—	
USDA Securities	2,238,039	(180,590)	—	—	
Total held-to-maturity	<u>\$ 3,564,369</u>	<u>\$ (203,152)</u>	<u>\$ 204,448</u>	<u>\$ (20,552)</u>	
Available-for-sale:					
AgVantage	\$ 4,148,349	\$ (180,008)	\$ 911,494	\$ (50,151)	
Farmer Mac Guaranteed Securities	9,816	(1,745)	—	—	
Total available-for-sale	<u>\$ 4,158,165</u>	<u>\$ (181,753)</u>	<u>\$ 911,494</u>	<u>\$ (50,151)</u>	

	As of December 31, 2021			
	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
	(in thousands)			
Held-to-maturity:				
AgVantage	\$ 1,387,236	\$ (12,764)	\$ —	\$ —
USDA Securities	—	—	—	—
Total held-to-maturity	<u>\$ 1,387,236</u>	<u>\$ (12,764)</u>	<u>\$ —</u>	<u>\$ —</u>
Available-for-sale:				
AgVantage	\$ 1,867,364	\$ (17,263)	\$ 90,971	\$ (2,747)

The unrealized losses presented above are principally due to changes in interest rates from the date of acquisition to June 30, 2022 and December 31, 2021, as applicable. The unrealized losses on the held-to-maturity USDA Securities as of both June 30, 2022 and December 31, 2021 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 Securities in the Agricultural Finance line of business is covered by the full faith and credit guarantee of the United States of America.

The unrealized losses from AgVantage securities were on 64 and 13 available-for-sale securities as of June 30, 2022 and December 31, 2021, respectively. There were 44 and 10 held-to-maturity AgVantage securities with an unrealized loss as of June 30, 2022 and December 31, 2021, respectively. As of June 30, 2022 and December 31, 2021, 9 and 2 available-for-sale AgVantage securities, respectively, had been in a loss position for more than 12 months. As of June 30, 2022, there were 2 held-to-maturity AgVantage securities in a loss position for more than 12 months. As of December 31, 2021, there were no held-to-maturity AgVantage securities in a loss position for more than 12 months.

During the three and six months ended June 30, 2022 and 2021, Farmer Mac had no sales of AgVantage Farmer Mac Guaranteed Securities, USDA Farmer Mac Guaranteed Securities or USDA Trading Securities and, therefore, Farmer Mac realized no gains or losses.

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, 2022 are set forth below. The balances presented are based on their contractual maturities, although the actual maturities may differ due to prepayments of the underlying assets.

Table 3.3

	As of June 30, 2022		
	Available-for-Sale Securities		
	Amortized Cost ⁽¹⁾	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 1,408,660	\$ 1,406,146	2.25 %
Due after one year through five years	2,540,713	2,471,054	2.75 %
Due after five years through ten years	994,839	917,016	2.51 %
Due after ten years	1,734,984	1,655,996	2.60 %
Total	<u>\$ 6,679,196</u>	<u>\$ 6,450,212</u>	2.57 %

⁽¹⁾ Amounts presented exclude \$36.4 million of accrued interest receivable.

	As of June 30, 2022		
	Held-to-Maturity Securities		
	Amortized Cost ⁽¹⁾	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 898,593	\$ 894,781	1.87 %
Due after one year through five years	826,067	782,613	1.97 %
Due after five years through ten years	247,037	229,329	2.87 %
Due after ten years	2,148,641	1,990,325	3.19 %
Total	<u>\$ 4,120,338</u>	<u>\$ 3,897,048</u>	2.62 %

⁽¹⁾ Amounts presented exclude \$34.0 million of accrued interest receivable.

4. FINANCIAL DERIVATIVES

Farmer Mac enters into financial derivative transactions 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, 2021, as filed with the SEC on February 28, 2022.

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, 2022 and December 31, 2021:

Table 4.1

	As of June 30, 2022						
	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	\$ 7,292,155	\$ 6,060	\$ (1,665)	2.07%	1.44%		11.57
Receive fixed non-callable	7,686,279	1,971	(7,136)	1.44%	1.20%		1.99
Receive fixed callable	1,993,577	—	(117,102)	1.32%	1.17%		3.66
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	617,000	21,061	(102)	1.94%	1.89%		5.39
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	211,147	317	(463)	3.26%	1.23%		4.56
Receive fixed non-callable	724,750	—	—	1.43%	0.36%		0.98
Basis swaps	1,793,911	252	(484)	1.26%	1.44%		2.80
Treasury futures	97,500	350	(1,046)			117.82	
Credit valuation adjustment		—	15				
Total financial derivatives	<u>\$ 20,416,319</u>	<u>\$ 30,011</u>	<u>\$ (127,983)</u>				
Collateral (held)/pledged		—	288,224				
Net amount		<u>\$ 30,011</u>	<u>\$ 160,241</u>				

As of December 31, 2021

As of December 31, 2021							
	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	\$ 6,238,438	\$ 11,554	\$ (583)	2.06%	0.13%		11.64
Receive fixed non-callable	5,884,529	15	(8,383)	0.17%	0.88%		2.27
Receive fixed callable	1,571,577	103	(17,612)	0.01%	0.80%		4.17
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	570,000	6,905	(2,763)	1.93%	0.49%		5.72
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	229,062	—	(4,641)	3.22%	0.16%		4.95
Receive fixed non-callable	1,377,250	—	—	0.13%	0.43%		0.97
Basis swaps	1,608,911	489	(280)	0.17%	0.20%		3.31
Treasury futures	67,600	73	—			130.58	
Credit valuation adjustment		—	14				
Total financial derivatives	<u>\$ 17,547,367</u>	\$ 19,139	\$ (34,248)				
Collateral (held)/pledged		—	194,519				
Net amount		<u>\$ 19,139</u>	<u>\$ 160,271</u>				

As of June 30, 2022, Farmer Mac expects to reclassify \$7.2 million after-tax from accumulated other comprehensive income to earnings over the next twelve months related to cash flow hedges. 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, 2022. During the three and six months ended June 30, 2022 and 2021, there were no gains or losses from interest rate swaps designated as cash flow hedges reclassified to earnings because it was probable that the originally forecasted transactions would occur.

The following tables summarize the net income/(expense) recognized in the consolidated statements of operations related to derivatives for the three and six months ended June 30, 2022 and 2021:

Table 4.2

For the Three Months Ended June 30, 2022							
	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives						
	Net Interest Income				Non-Interest Income		
	Interest Income Investments and Cash Equivalents	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains on financial derivatives	Total	
	(in thousands)						
Total amounts presented in the consolidated statement of operations	\$ 11,200	\$ 57,104	\$ 76,632	\$ (75,534)	\$ 3,418	\$ 72,820	
Income/(expense) related to interest settlements on fair value hedging relationships:							
Recognized on derivatives	(1,008)	(15,693)	(4,459)	4,648	—	(16,512)	
Recognized on hedged items	3,219	34,431	13,669	(23,443)	—	27,876	
Premium/discount amortization recognized on hedged items	(343)	—	—	(484)	—	(827)	
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 1,868	\$ 18,738	\$ 9,210	\$ (19,279)	\$ —	\$ 10,537	
Gains/(losses) on fair value hedging relationships:							
Recognized on derivatives	\$ 24,138	\$ 153,670	\$ 109,419	\$ (86,481)	\$ —	\$ 200,746	
Recognized on hedged items	(22,969)	(149,266)	(107,347)	84,873	—	(194,709)	
Gains/(losses) on fair value hedging relationships	\$ 1,169	\$ 4,404	\$ 2,072	\$ (1,608)	\$ —	\$ 6,037	
Expense related to interest settlements on cash flow hedging relationships:							
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ —	\$ (1,155)	\$ —	\$ (1,155)	
Recognized on hedged items	—	—	—	(1,821)	—	(1,821)	
Discount amortization recognized on hedged items	—	—	—	(15)	—	(15)	
Expense recognized on cash flow hedges	\$ —	\$ —	\$ —	\$ (2,991)	\$ —	\$ (2,991)	
Gains on financial derivatives not designated in hedging relationships:							
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ 3,911	\$ 3,911	
Interest expense on interest rate swaps	—	—	—	—	(1,955)	(1,955)	
Treasury futures	—	—	—	—	1,462	1,462	
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ —	\$ 3,418	\$ 3,418	

For the Three Months Ended June 30, 2021

	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives						
	Net Interest Income				Non-Interest Income		
	Interest Income Investments and Cash Equivalents	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Losses on financial derivatives	Total	
	(in thousands)						
Total amounts presented in the consolidated statement of operations	\$ 4,457	\$ 42,414	\$ 60,214	\$ (51,956)	\$ (3,066)	\$ 52,063	
Income/(expense) related to interest settlements on fair value hedging relationships:							
Recognized on derivatives	(35)	(21,604)	(6,704)	9,811	—	(18,532)	
Recognized on hedged items	67	30,565	11,635	(12,141)	—	30,126	
Discount amortization recognized on hedged items	—	—	—	(257)	—	(257)	
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 32	\$ 8,961	\$ 4,931	\$ (2,587)	\$ —	\$ 11,337	
Gains/(losses) on fair value hedging relationships:							
Recognized on derivatives	\$ (176)	\$ (48,680)	\$ (65,147)	\$ (2,657)	\$ —	\$ (116,660)	
Recognized on hedged items	188	49,878	63,978	891	—	114,935	
Gains/(losses) on fair value hedging relationships	\$ 12	\$ 1,198	\$ (1,169)	\$ (1,766)	\$ —	\$ (1,725)	
Expense related to interest settlements on cash flow hedging relationships:							
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ —	\$ (1,776)	\$ —	\$ (1,776)	
Recognized on hedged items	—	—	—	(643)	—	(643)	
Discount amortization recognized on hedged items	—	—	—	(8)	—	(8)	
Expense recognized on cash flow hedges	\$ —	\$ —	\$ —	\$ (2,427)	\$ —	\$ (2,427)	
Losses on financial derivatives not designated in hedging relationships:							
Losses on interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ (3,739)	\$ (3,739)	
Interest expense on interest rate swaps	—	—	—	—	1,098	1,098	
Treasury futures	—	—	—	—	(425)	(425)	
Losses on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ —	\$ (3,066)	\$ (3,066)	

For the Six Months Ended June 30, 2022

	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives						
	Net Interest Income				Non-Interest Income		
	Interest Income Investments and Cash Equivalents	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains on financial derivatives	Total	
	(in thousands)						
Total amounts presented in the consolidated statement of operations	\$ 16,916	\$ 96,361	\$ 143,879	\$ (125,879)	\$ 19,492	\$ 150,769	
Income/(expense) related to interest settlements on fair value hedging relationships:							
Recognized on derivatives	(2,492)	(37,337)	(11,405)	18,848	—	(32,386)	
Recognized on hedged items	5,816	66,359	26,288	(41,599)	—	56,864	
Premium/discount amortization recognized on hedged items	(757)	—	—	(924)	—	(1,681)	
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 2,567	\$ 29,022	\$ 14,883	\$ (23,675)	\$ —	\$ 22,797	
Gains/(losses) on fair value hedging relationships:							
Recognized on derivatives	\$ 57,562	\$ 363,858	\$ 241,351	\$ (323,494)	\$ —	\$ 339,277	
Recognized on hedged items	(55,694)	(359,914)	(236,953)	321,687	—	(330,874)	
Gains/(losses) on fair value hedging relationships	\$ 1,868	\$ 3,944	\$ 4,398	\$ (1,807)	\$ —	\$ 8,403	
Expense related to interest settlements on cash flow hedging relationships:							
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ —	\$ (3,166)	\$ —	\$ (3,166)	
Recognized on hedged items	—	—	—	(2,608)	—	(2,608)	
Discount amortization recognized on hedged items	—	—	—	(29)	—	(29)	
Expense recognized on cash flow hedges	\$ —	\$ —	\$ —	\$ (5,803)	\$ —	\$ (5,803)	
Gains on financial derivatives not designated in hedging relationships:							
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ 4,614	\$ 4,614	
Interest expense on interest rate swaps	—	—	—	—	(2,883)	(2,883)	
Treasury futures	—	—	—	—	17,761	17,761	
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ —	\$ 19,492	\$ 19,492	

For the Six Months Ended June 30, 2021

	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives					
	Net Interest Income				Non-Interest Income	
	Interest Income Investments and Cash Equivalents	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains on financial derivatives	Total
	(in thousands)					
Total amounts presented in the consolidated statement of operations:	\$ 9,986	\$ 84,818	\$ 119,708	\$ (106,132)	\$ 1,227	\$ 109,607
Income/(expense) related to interest settlements on fair value hedging relationships:						
Recognized on derivatives	(35)	(43,041)	(13,275)	19,292	—	(37,059)
Recognized on hedged items	67	61,341	23,122	(23,949)	—	60,581
Discount amortization recognized on hedged items	—	—	—	(478)	—	(478)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 32	\$ 18,300	\$ 9,847	\$ (5,135)	\$ —	\$ 23,044
Gains/(losses) on fair value hedging relationships:						
Recognized on derivatives	\$ (176)	\$ 119,396	\$ 80,624	\$ (32,111)	\$ —	\$ 167,733
Recognized on hedged items	188	(118,922)	(80,770)	30,392	—	(169,112)
Gains/(losses) on fair value hedging relationships	\$ 12	\$ 474	\$ (146)	\$ (1,719)	\$ —	\$ (1,379)
Expense related to interest settlements on cash flow hedging relationships:						
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ —	\$ (3,523)	\$ —	\$ (3,523)
Recognized on hedged items	—	—	—	(1,298)	—	(1,298)
Discount amortization recognized on hedged items	—	—	—	(15)	—	(15)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ —	\$ (4,836)	\$ —	\$ (4,836)
(Losses)/gains on financial derivatives not designated in hedge relationships:						
Losses on interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ (2,271)	\$ (2,271)
Interest expense on interest rate swaps	—	—	—	—	3,322	3,322
Treasury futures	—	—	—	—	176	176
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ —	\$ 1,227	\$ 1,227

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, 2022 and December 31, 2021:

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, 2022	December 31, 2021	June 30, 2022	December 31, 2021
	<i>(in thousands)</i>			
Investment securities, Available-for-Sale, at fair value	\$ 677,549	\$ 458,653	\$ (56,912)	\$ (1,218)
Farmer Mac Guaranteed Securities, Available-for-Sale, at fair value ⁽¹⁾	4,393,401	4,276,002	(153,395)	206,520
Loans held for investment, at amortized cost ⁽²⁾	1,675,794	1,668,142	(223,069)	13,832
Notes Payable ⁽³⁾	(9,162,760)	(7,083,535)	364,064	42,377

⁽¹⁾ Includes \$1.2 million and \$1.3 million of hedging adjustments on discontinued hedging relationships as of June 30, 2022 and December 31, 2021, respectively.

⁽²⁾ Includes \$1.1 million and \$1.2 million of hedging adjustments on a discontinued hedging relationship as of June 30, 2022 and December 31, 2021, respectively.

⁽³⁾ Carrying amount represents amortized cost.

The following table shows Farmer Mac's credit exposure to interest rate swap counterparties as of June 30, 2022 and December 31, 2021:

Table 4.4

	June 30, 2022		
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet
	(in thousands)		
Assets:			
Derivatives			
Interest rate swap	\$ 466,602	\$ 466,602	\$ —
Liabilities:			
Derivatives			
Interest rate swap	\$ 388,191	\$ 350,366	\$ 37,825

⁽¹⁾ Gross amount excludes netting arrangements and any adjustment for nonperformance risk, but includes accrued interest.

	December 31, 2021		
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet
	(in thousands)		
Assets:			
Derivatives			
Interest rate swaps	\$ 91,130	\$ 91,130	\$ —
Liabilities:			
Derivatives			
Interest rate swaps	\$ 404,063	\$ 386,249	\$ 17,814

⁽¹⁾ Gross amount excludes netting arrangements and any adjustment for nonperformance risk, but includes accrued interest.

As of both June 30, 2022 and December 31, 2021, Farmer Mac held no cash or investment securities as collateral for its derivatives in net asset positions.

Farmer Mac posted \$105.3 million cash and \$182.9 million of investment securities as of June 30, 2022 and posted \$16.6 million cash and \$177.9 million investment securities as of December 31, 2021. 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, 2022 or December 31, 2021, 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, 2022 and December 31, 2021, 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 \$20.3 billion notional amount of interest rate swaps outstanding as of June 30, 2022, \$16.9 billion were cleared through the swap clearinghouse, the Chicago Mercantile Exchange ("CME"). Of Farmer Mac's \$17.5 billion notional amount of interest rate swaps outstanding as of December 31, 2021, \$14.9 billion were cleared through the CME. During the first half of 2022 and throughout 2021, Farmer Mac continued the use of non-cleared basis swaps to prepare for the transition away from the use of LIBOR as a reference rate.

5. 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 basis adjustments. Loans held for sale are reported at the lower of cost or fair value determined on a pooled basis. As of both June 30, 2022 and December 31, 2021, Farmer Mac had no loans held for sale, respectively. Farmer Mac did not record any lower of cost or fair value adjustments during the three and six months ended June 30, 2022 and 2021.

The following table includes loans held for investment and displays the composition of the loan balances as of June 30, 2022 and December 31, 2021:

Table 5.1

	As of June 30, 2022			As of December 31, 2021		
	Unsecuritized	In Consolidated Trusts	Total	Unsecuritized	In Consolidated Trusts	Total
<i>(in thousands)</i>						
Agricultural Finance mortgage loans	\$ 6,363,921	\$ 834,941	\$ 7,198,862	\$ 5,898,370	\$ 948,623	\$ 6,846,993
Rural Infrastructure Finance loans	2,757,993	—	2,757,993	2,389,136	—	2,389,136
Total unpaid principal balance ⁽¹⁾	9,121,914	834,941	9,956,855	8,287,506	948,623	9,236,129
Unamortized premiums, discounts, fair value hedge basis adjustment, and other cost basis adjustments	(210,439)	—	(210,439)	26,590	—	26,590
Total loans	8,911,475	834,941	9,746,416	8,314,096	948,623	9,262,719
Allowance for losses	(12,046)	(357)	(12,403)	(13,477)	(564)	(14,041)
Total loans, net of allowance	<u>\$ 8,899,429</u>	<u>\$ 834,584</u>	<u>\$ 9,734,013</u>	<u>\$ 8,300,619</u>	<u>\$ 948,059</u>	<u>\$ 9,248,678</u>

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

Allowance for Losses

The following table is a summary, by asset type, of the allowance for losses as of June 30, 2022 and December 31, 2021:

Table 5.2

	June 30, 2022	December 31, 2021
	Allowance for Losses	Allowance for Losses
	<i>(in thousands)</i>	
Loans:		
Agricultural Finance mortgage loans	\$ 4,015	\$ 3,442
Rural Infrastructure Finance loans	8,388	10,599
Total	<u>\$ 12,403</u>	<u>\$ 14,041</u>

The following is a summary of the changes in the allowance for losses for the three and six month period ended June 30, 2022 and 2021:

Table 5.3

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2022	June 30, 2021	June 30, 2022	June 30, 2021
	Allowance for Losses	Allowance for Losses	Allowance for Losses	Allowance for Losses
	<i>(in thousands)</i>			
Agricultural Finance mortgage loans				
Beginning Balance	\$ 3,948	\$ 3,718	\$ 3,442	\$ 3,745
Provision for/(release of) losses	67	(626)	657	(653)
Charge-offs	—	—	(84)	—
Ending Balance ⁽¹⁾	<u>\$ 4,015</u>	<u>\$ 3,092</u>	<u>\$ 4,015</u>	<u>\$ 3,092</u>
Rural Infrastructure Finance loans				
Beginning Balance	\$ 9,622	\$ 11,089	\$ 10,599	\$ 10,087
(Release of)/provision for losses	(1,234)	(181)	(2,211)	821
Charge-offs	—	—	—	—
Ending Balance ⁽²⁾	<u>\$ 8,388</u>	<u>\$ 10,908</u>	<u>\$ 8,388</u>	<u>\$ 10,908</u>

⁽¹⁾ As of June 30, 2022 and 2021, allowance for losses for Agricultural Finance mortgage loans includes \$1.2 million and \$1.8 million allowance for collateral dependent assets secured by agricultural real estate, respectively.

⁽²⁾ As of both June 30, 2022 and 2021, allowance for losses for Rural Infrastructure Finance loans includes no allowance for collateral dependent assets.

The net release from the allowance for Rural Infrastructure Finance loan losses of \$1.2 million recorded during second quarter 2022 was primarily attributable to updated credit loss model forecast assumptions and improvements in risk ratings. The \$0.1 million net provision to the allowance for the Agricultural Finance mortgage loan portfolio during second quarter 2022 was primarily attributable to a risk rating downgrade on a single agricultural storage and processing loan.

The \$2.2 million net release from the allowance for the Rural Infrastructure Finance portfolio for the six months ended June 30, 2022 was primarily attributable to the updated credit loss model forecast assumptions mentioned above and a first quarter risk rating upgrade on a single loan. The risk rating upgrade on that loan reflected that borrower's successful securitization of its large payable that arose during the arctic freeze that struck Texas in February 2021. The \$0.7 million net provision to the allowance for the Agricultural Finance mortgage loan portfolio for the six months ended June 30, 2022 was primarily attributable to a risk rating downgrade on a single agricultural storage and processing loan.

The release from the allowance for Rural Infrastructure Finance loan losses of \$0.2 million recorded during second quarter 2021 was primarily attributable to the impact of improving economic factor forecasts, specifically expectations for unemployment. The \$0.6 million release from the allowance for the Agricultural Finance mortgage loan portfolio during second quarter 2021 was primarily attributable to improving economic factor forecasts, particularly agricultural commodity prices.

The small net provision recorded to the allowance for the six months ended June 30, 2021, was primarily a result of the impact of the Texas Arctic Freeze on the Rural Infrastructure Finance portfolio, partially offset by improving economic factor forecasts.

The following table presents the unpaid principal balances by delinquency status of Farmer Mac's loans and non-performing assets as of June 30, 2022 and December 31, 2021:

Table 5.4

	As of June 30, 2022							
	Accruing						Nonaccrual	
	Current	30-59 Days	60-89 Days	90 Days and Greater ⁽²⁾	Total Past Due		loans ⁽³⁾⁽⁴⁾	Total Loans
	<i>(in thousands)</i>							
Loans ⁽¹⁾ :								
Agricultural Finance mortgage loans	\$ 7,076,993	\$ 9,546	\$ 265	\$ 3,480	\$ 13,291	\$ 108,578	\$ 7,198,862	
Rural Infrastructure Finance loans	2,757,993	—	—	—	—	—	2,757,993	
Total	\$ 9,834,986	\$ 9,546	\$ 265	\$ 3,480	\$ 13,291	\$ 108,578	\$ 9,956,855	

⁽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⁾ Includes loans in consolidated trusts with beneficial interests owned by third parties that are 90 days or more past due.

⁽³⁾ Includes loans 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.

⁽⁴⁾ Includes \$19.6 million of nonaccrual loans for which there was no associated allowance. During the three and six months ended June 30, 2022, Farmer Mac received \$2.0 million and \$3.8 million in interest on nonaccrual loans, respectively.

As of December 31, 2021

	Accruing							Nonaccrual loans ⁽³⁾⁽⁴⁾	Total Loans
	Current	30-59 Days	60-89 Days	90 Days and Greater ⁽²⁾	Total Past Due				
	<i>(in thousands)</i>								
Loans ⁽¹⁾ :									
Agricultural Finance mortgage loans	\$ 6,715,070	\$ 4,548	\$ 568	\$ —	\$ 5,116	\$ 126,807	\$ 6,846,993		
Rural Infrastructure Finance loans	2,389,136	—	—	—	—	—	2,389,136		
Total	\$ 9,104,206	\$ 4,548	\$ 568	\$ —	\$ 5,116	\$ 126,807	\$ 9,236,129		

- (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) Includes loans in consolidated trusts with beneficial interests owned by third parties that are 90 days or more past due.
- (3) Includes loans 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.
- (4) Includes \$31.0 million of nonaccrual loans for which there was no associated allowance. During the year ended December 31, 2021, Farmer Mac received \$5.0 million in interest on nonaccrual loans.

Credit Quality Indicators

The following tables present credit quality indicators related to Agricultural Finance mortgage loans and Rural Infrastructure Finance loans held as of June 30, 2022 and December 31, 2021, by year of origination:

Table 5.5

	As of June 30, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance mortgage loans ⁽¹⁾ :								
Internally Assigned Risk Rating:								
Acceptable	\$ 806,441	\$2,069,734	\$1,452,337	\$ 477,525	\$ 300,187	\$1,100,135	\$ 537,395	\$6,743,754
Special mention ⁽²⁾	17,989	104,734	40,616	50,915	34,897	25,188	11,459	285,798
Substandard ⁽³⁾	—	5,984	19,716	24,622	20,108	81,136	17,744	169,310
Total	<u>\$ 824,430</u>	<u>\$2,180,452</u>	<u>\$1,512,669</u>	<u>\$ 553,062</u>	<u>\$ 355,192</u>	<u>\$1,206,459</u>	<u>\$ 566,598</u>	<u>\$7,198,862</u>
For the Three Months Ended June 30, 2022:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
For the Six Months Ended June 30, 2022:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (84)	\$ —	\$ (84)
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (84)</u>	<u>\$ —</u>	<u>\$ (84)</u>

⁽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 June 30, 2022

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total
	2022	2021	2020	2019	2018	Prior		
	(in thousands)							
Rural Infrastructure Finance loans ⁽¹⁾ :								
Internally Assigned Risk Rating:								
Acceptable	\$ 415,701	\$ 206,967	\$ 638,579	\$ 757,248	\$ 3,792	\$ 693,200	\$ 42,506	\$2,757,993
Special mention ⁽²⁾	—	—	—	—	—	—	—	—
Substandard ⁽³⁾	—	—	—	—	—	—	—	—
Total	<u>\$ 415,701</u>	<u>\$ 206,967</u>	<u>\$ 638,579</u>	<u>\$ 757,248</u>	<u>\$ 3,792</u>	<u>\$ 693,200</u>	<u>\$ 42,506</u>	<u>\$2,757,993</u>
For the Three Months Ended June 30, 2022:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Rural Infrastructure net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
For the Six Months Ended June 30, 2022:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Rural Infrastructure net charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

⁽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, 2021

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total
	2021	2020	2019	2018	2017	Prior		
	(in thousands)							
Agricultural Finance mortgage loans ⁽¹⁾ :								
Internally Assigned Risk Rating:								
Acceptable	\$2,138,060	\$1,541,509	\$ 540,139	\$ 324,917	\$ 303,852	\$1,004,709	\$ 545,370	\$6,398,556
Special mention ⁽²⁾	84,795	50,057	51,200	48,078	9,132	14,646	4,771	262,679
Substandard ⁽³⁾	1,654	4,997	26,237	27,109	38,703	75,780	11,278	185,758
Total	<u>\$2,224,509</u>	<u>\$1,596,563</u>	<u>\$ 617,576</u>	<u>\$ 400,104</u>	<u>\$ 351,687</u>	<u>\$1,095,135</u>	<u>\$ 561,419</u>	<u>\$6,846,993</u>
For the Three Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
For the Six Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

⁽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, 2021								
	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total
	2021	2020	2019	2018	2017	Prior		
	(in thousands)							
Rural Infrastructure Finance loans ⁽¹⁾ :								
Internally Assigned Risk Rating:								
Acceptable	\$ 242,570	\$ 612,366	\$ 774,941	\$ 8,100	\$ 86,878	\$ 628,903	\$ 12,578	\$2,366,336
Special mention ⁽²⁾	—	—	—	—	—	—	—	—
Substandard ⁽³⁾	—	22,800	—	—	—	—	—	22,800
Total	<u>\$ 242,570</u>	<u>\$ 635,166</u>	<u>\$ 774,941</u>	<u>\$ 8,100</u>	<u>\$ 86,878</u>	<u>\$ 628,903</u>	<u>\$ 12,578</u>	<u>\$2,389,136</u>
For the Three Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Rural Infrastructure net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
For the Six Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Rural Infrastructure net charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

- (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.

6. GUARANTEES AND 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, 2022 and December 31, 2021, 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, 2022		As of December 31, 2021
	(in thousands)		
Agricultural Finance			
Farmer Mac Guaranteed Securities	\$	523,580	\$ 578,358
Rural Infrastructure Finance			
Farmer Mac Guaranteed Securities		2,755	2,755
Total off-balance sheet Farmer Mac Guaranteed Securities	\$	526,335	\$ 581,113

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, 2022	June 30, 2021
	<i>(in thousands)</i>	
Proceeds from new securitizations	\$ 25,928	\$ 49,133
Guarantee fees received	1,074	669

Farmer Mac presents a liability for its obligation to stand ready under its guarantee in "Guarantee and commitment obligation" on the consolidated balance sheets. The following table presents the liability and the weighted-average remaining maturity of all loans underlying off-balance sheet Farmer Mac Guaranteed Securities:

Table 6.3

	As of June 30, 2022		As of December 31, 2021	
	<i>(dollars in thousands)</i>			
Guarantee and commitment obligation	\$	6,737	\$	7,355
Weighted average remaining maturity:				
Farmer Mac Guaranteed Securities		21.6 years		21.7 years
AgVantage Securities		2.5 years		3.0 years

Long-Term Standby Purchase Commitments

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. The following table presents the liability, 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, as well as the weighted-average remaining maturity of all loans underlying LTSPCs:

Table 6.4

	As of June 30, 2022		As of December 31, 2021	
	<i>(dollars in thousands)</i>			
Guarantee and commitment obligation ⁽¹⁾	\$	36,253	\$	36,571
Maximum principal amount		3,200,125		3,191,061
Weighted-average remaining maturity		15.5 years		15.5 years

⁽¹⁾ Relates to LTSPCs issued or modified on or after January 1, 2003.

Reserve for Losses

The following table is a summary, by asset type, of the reserve for losses as of June 30, 2022 and December 31, 2021:

Table 6.5

	June 30, 2022	December 31, 2021
	Reserve for Losses	Reserve for Losses
	<i>(in thousands)</i>	
Agricultural Finance:		
LTSPCs and Farmer Mac Guaranteed Securities	\$ 882	\$ 1,068
Rural Infrastructure Finance		
LTSPCs	795	882
Total	<u>\$ 1,677</u>	<u>\$ 1,950</u>

The following is a summary of the changes in the reserve for losses for the three and six month periods ended June 30, 2022 and 2021:

Table 6.6

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2022	June 30, 2021	June 30, 2022	June 30, 2021
	Reserve for Losses	Reserve for Losses	Reserve for Losses	Reserve for Losses
	<i>(in thousands)</i>			
Agricultural Finance mortgage loans				
Beginning Balance	\$ 993	\$ 1,366	\$ 1,068	\$ 2,097
Release of losses	(111)	(172)	(186)	(903)
Charge-offs	—	—	—	—
Ending Balance	<u>\$ 882</u>	<u>\$ 1,194</u>	<u>\$ 882</u>	<u>\$ 1,194</u>
Rural Infrastructure Finance loans				
Beginning Balance	\$ 847	\$ 967	\$ 882	\$ 1,180
Release of losses	(52)	(50)	(87)	(263)
Charge-offs	—	—	—	—
Ending Balance	<u>\$ 795</u>	<u>\$ 917</u>	<u>\$ 795</u>	<u>\$ 917</u>

The release from the reserve for losses in both the Agricultural Finance and Rural Infrastructure Finance LTSPC and Farmer Mac Guaranteed portfolios recorded during the three and six months ended June 30, 2022 was primarily due to improvements in risk ratings in those portfolios.

The release from the reserve for losses in the Rural Infrastructure Finance LTSPC portfolios recorded during the three and six months ended June 30, 2021 was primarily due to improving economic factor forecasts and ratings upgrades. The release in the Agricultural Finance LTSPC portfolio was primarily due to ratings upgrades and updated loss-given-default assumptions.

The following table presents the unpaid principal balances by delinquency status of Agricultural Finance and Rural Infrastructure loans underlying LTSPCs and Farmer Mac Guaranteed Securities as of June 30, 2022 and December 31, 2021:

Table 6.7

As of June 30, 2022						
	Current	30-59 Days	60-89 Days	90 Days and Greater ⁽¹⁾	Total Past Due	Total Loans
<i>(in thousands)</i>						
Agricultural Finance:						
LTSPCs and Farmer Mac Guaranteed Securities	\$ 2,913,144	\$ 14,009	\$ 194	\$ 1,873	\$ 16,076	\$ 2,929,220
Rural Infrastructure:						
LTSPCs	\$ 572,929	\$ —	\$ —	\$ —	\$ —	\$ 572,929

⁽¹⁾ Includes loans underlying off-balance sheet Agricultural Finance Guaranteed Securities and LTSPCs that are 90 days of 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.

As of December 31, 2021						
	Current	30-59 Days	60-89 Days	90 Days and Greater ⁽¹⁾	Total Past Due	Total Loans
<i>(in thousands)</i>						
Agricultural Finance:						
LTSPCs and Farmer Mac Guaranteed Securities	\$ 2,953,091	\$ 8,068	\$ —	\$ 3,597	\$ 11,665	\$ 2,964,756
Rural Infrastructure:						
LTSPCs	\$ 556,837	\$ —	\$ —	\$ —	\$ —	\$ 556,837

⁽¹⁾ Includes loans underlying off-balance sheet Agricultural Finance Guaranteed Securities and LTSPCs that are 90 days of 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.

Credit Quality Indicators

The following tables present credit quality indicators related to Agricultural Finance and Rural Infrastructure loans underlying LTSPCs and Farmer Mac Guaranteed Securities as of June 30, 2022 and December 31, 2021, by year of origination:

Table 6.8

As of June 30, 2022											
Year of Origination:							Revolving Loans - Amortized Cost Basis	Total			
2022	2021	2020	2019	2018	Prior						
(in thousands)											
Agricultural Finance LTSPCs and Farmer Mac Guaranteed Securities:											
Internally Assigned Risk Rating:											
Acceptable	\$ 77,240	\$ 442,971	\$ 504,112	\$ 236,781	\$ 183,049	\$1,134,264	\$ 256,933	\$2,835,350			
Special mention ⁽¹⁾	—	—	1,882	—	1,219	44,111	2,296	49,508			
Substandard ⁽²⁾	—	5,492	2,643	720	5,893	24,276	5,338	44,362			
Total	<u>\$ 77,240</u>	<u>\$ 448,463</u>	<u>\$ 508,637</u>	<u>\$ 237,501</u>	<u>\$ 190,161</u>	<u>\$1,202,651</u>	<u>\$ 264,567</u>	<u>\$2,929,220</u>			
For the Three Months Ended June 30, 2022:											
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —			
Current period recoveries	—	—	—	—	—	—	—	—			
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>			
For the Six Months Ended June 30, 2022:											
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —			
Current period recoveries	—	—	—	—	—	—	—	—			
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>			
⁽¹⁾ Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.											
⁽²⁾ 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 June 30, 2022

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total						
	2022	2021	2020	2019	2018	Prior								
	(in thousands)													
Rural Infrastructure Finance LTSPCs:														
Internally Assigned Risk Rating:														
Acceptable	\$	—	\$	—	\$	—	\$	—	\$	490,615	\$	82,314	\$	572,929
Special mention ⁽¹⁾		—		—		—		—		—		—		—
Substandard ⁽²⁾		—		—		—		—		—		—		—
Total	\$	—	\$	—	\$	—	\$	—	\$	490,615	\$	82,314	\$	572,929
For the Three Months Ended June 30, 2022:														
Current period charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Current period recoveries		—		—		—		—		—		—		—
Current period Rural Infrastructure net charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
For the Six Months Ended June 30, 2022:														
Current period charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Current period recoveries		—		—		—		—		—		—		—
Current period Rural Infrastructure net charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—

⁽¹⁾ Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.

⁽²⁾ 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, 2021

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total
	2021	2020	2019	2018	2017	Prior		
	(in thousands)							
Agricultural Finance LTSPCs and Farmer Mac Guaranteed Securities:								
Internally Assigned Risk Rating:								
Acceptable	\$ 376,027	\$ 537,521	\$ 244,365	\$ 188,452	\$ 235,865	\$1,013,937	\$ 252,039	\$2,848,206
Special mention ⁽¹⁾	—	5,270	—	6,808	3,154	38,042	2,354	55,628
Substandard ⁽²⁾	—	1,307	724	5,038	12,793	37,326	3,734	60,922
Total	<u>\$ 376,027</u>	<u>\$ 544,098</u>	<u>\$ 245,089</u>	<u>\$ 200,298</u>	<u>\$ 251,812</u>	<u>\$1,089,305</u>	<u>\$ 258,127</u>	<u>\$2,964,756</u>
For the Three Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
For the Six Months Ended June 30, 2021:								
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Current period recoveries	—	—	—	—	—	—	—	—
Current period Agricultural Finance net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

⁽¹⁾ Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.

⁽²⁾ 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, 2021

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total				
	2021	2020	2019	2018	2017	Prior						
	(in thousands)											
Rural Infrastructure Finance LTSPCs:												
Internally Assigned Risk Rating:												
Acceptable	\$	—	\$	—	\$	—	\$	499,594	\$	57,243	\$	556,837
Special mention ⁽¹⁾		—		—		—		—		—		—
Substandard ⁽²⁾		—		—		—		—		—		—
Total	\$	—	\$	—	\$	—	\$	499,594	\$	57,243	\$	556,837
For the Three Months Ended June 30, 2021:												
Current period charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Current period recoveries		—		—		—		—		—		—
Current period Rural Infrastructure net charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
For the Six Months Ended June 30, 2021:												
Current period charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Current period recoveries		—		—		—		—		—		—
Current period Rural Infrastructure net charge-offs	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—

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

7. NOTES PAYABLE

Farmer Mac's borrowings consist of discount notes and medium-term notes, both of which are unsecured general obligations of Farmer Mac. Discount notes generally have original maturities of 1.0 year or less, whereas medium-term notes generally have maturities of 0.5 years to 25.0 years.

The following tables set forth information related to Farmer Mac's borrowings as of June 30, 2022 and December 31, 2021:

Table 7.1

June 30, 2022				
	Outstanding as of June 30		Average Outstanding During the Quarter	
	Amount	Weighted-Average Rate	Amount	Weighted-Average Rate
<i>(dollars in thousands)</i>				
Due within one year:				
Discount notes	\$ 1,476,680	1.10 %	\$ 1,733,373	0.37 %
Medium-term notes	1,370,907	1.73 %	942,055	0.58 %
Current portion of medium-term notes	4,216,015	1.05 %		
Total due within one year	<u>\$ 7,063,602</u>	1.19 %		
Due after one year:				
Medium-term notes due in:				
Two years	\$ 4,356,442	1.13 %		
Three years	2,755,310	1.24 %		
Four years	2,646,648	1.06 %		
Five years	2,750,521	1.64 %		
Thereafter	4,265,636	2.03 %		
Total due after one year	<u>\$ 16,774,557</u>	1.45 %		
Total principal net of discounts	\$ 23,838,159	1.37 %		
Hedging adjustments	(364,064)			
Total	<u><u>\$ 23,474,095</u></u>			

December 31, 2021				
	Outstanding as of December 31		Average Outstanding During the Year	
	Amount	Weighted-Average Rate	Amount	Weighted-Average Rate
<i>(dollars in thousands)</i>				
Due within one year:				
Discount notes	\$ 2,167,979	0.05 %	\$ 1,822,714	0.08 %
Medium-term notes	837,580	0.09 %	1,956,870	0.12 %
Current portion of medium-term notes	3,981,240	0.75 %		
Total due within one year	<u>\$ 6,986,799</u>	0.45 %		
Due after one year:				
Medium-term notes due in:				
Two years	\$ 4,179,985	0.81 %		
Three years	2,554,906	0.87 %		
Four years	2,119,805	0.85 %		
Five years	2,810,894	1.07 %		
Thereafter	4,106,144	1.69 %		
Total due after one year	<u>\$ 15,771,734</u>	1.10 %		
Total principal net of discounts	\$ 22,758,533	0.90 %		
Hedging adjustments	(42,377)			
Total	<u><u>\$ 22,716,156</u></u>			

The maximum amount of Farmer Mac's discount notes outstanding at any month end during the six months ended June 30, 2022 and 2021 was \$2.2 billion and \$1.9 billion, respectively.

Callable medium-term notes give Farmer Mac the option to redeem the debt at par value on a specified call date or at any time on or after a specified call date. The following table summarizes by maturity date the amounts and costs for Farmer Mac debt callable in 2022 as of June 30, 2022:

Table 7.2

Debt Callable in 2022 as of June 30, 2022, by Maturity		
	Amount	Weighted-Average Rate
	<i>(dollars in thousands)</i>	
Maturity:		
2023	\$ 243,850	0.42 %
2024	312,379	0.40 %
2025	301,612	0.92 %
2026	970,735	1.09 %
Thereafter	1,564,298	1.74 %
Total	<u>\$ 3,392,874</u>	<u>1.26 %</u>

The following schedule summarizes the earliest interest rate reset date, or debt maturities, of total borrowings outstanding as of June 30, 2022, including callable and non-callable medium-term notes, assuming callable notes are redeemed at the initial call date:

Table 7.3

Earliest Interest Rate Reset Date, or Debt Maturities, of Borrowings Outstanding		
	Amount	Weighted-Average Rate
	<i>(dollars in thousands)</i>	
Debt with interest rate resets, or debt maturities in:		
2022	\$ 5,994,023	1.32 %
2023	4,877,070	1.17 %
2024	3,257,121	1.10 %
2025	2,442,236	1.16 %
2026	2,725,448	1.16 %
Thereafter	4,542,261	2.11 %
Total principal net of discounts	<u>\$ 23,838,159</u>	<u>1.37 %</u>

During the six months ended June 30, 2022 and 2021, Farmer Mac called \$26.0 million and \$1.6 billion of callable medium-term notes, respectively.

Authority to Borrow from the U.S. Treasury

Farmer Mac's statutory charter authorizes it, upon satisfying certain conditions, to borrow up to \$1.5 billion from the U.S. Treasury through the issuance of debt obligations to the U.S. Treasury. Any funds borrowed from the U.S. Treasury may be used solely to fulfill Farmer Mac's guarantee obligations. Any debt obligations issued by Farmer Mac under this authority would bear interest at a rate determined by the U.S. Treasury, taking into consideration the average rate on outstanding marketable obligations of the United States as of the last day of the last calendar month ending before the date of the purchase of the obligations from Farmer Mac. The charter requires Farmer Mac to repurchase any of its debt obligations held by the U.S. Treasury within a reasonable time. As of June 30, 2022, Farmer Mac had not used this borrowing authority.

Gains on Repurchase of Outstanding Debt

No outstanding debt repurchases were made in the six months ended June 30, 2022 and 2021.

8. EQUITY

Common Stock

During first and second quarter 2022, Farmer Mac paid a quarterly dividend of \$0.95 per share on all classes of its common stock. For each quarter in 2021, Farmer Mac paid a quarterly dividend of \$0.88 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. The share repurchase program, last modified on March 14, 2019, authorized Farmer Mac to repurchase up to \$10.0 million of Farmer Mac's outstanding Class C non-voting common stock. During first quarter 2020, Farmer Mac repurchased approximately 4,000 shares of Class C non-voting common stock at a cost of approximately \$0.2 million. Shortly after these repurchases were completed, Farmer Mac indefinitely suspended its share repurchase program in an effort to preserve capital and liquidity in view of market volatility and uncertainty caused by the COVID-19 pandemic. In March 2021, Farmer Mac's board of directors reinstated the share repurchase program on its previous terms (with a remaining authorization of up to \$9.8 million in stock repurchases) and extended the expiration date of the program to March 2023. Farmer Mac did not repurchase any shares of its Class C non-voting common stock during the first half of 2022. As of June 30, 2022, Farmer Mac had repurchased approximately 673,000 shares of Class C non-voting common stock at a cost of approximately \$19.8 million under the share repurchase program since 2015.

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, 2022 and December 31, 2021, 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, 2022, Farmer Mac's minimum capital requirement was \$755.5 million and its core capital level was \$1.3 billion, which was \$506.3 million above the minimum capital requirement as of that date. As of December 31, 2021, Farmer Mac's minimum capital requirement was \$713.8 million and its core capital level was \$1.2 billion, which was \$486.8 million above the minimum capital requirement as of that date.

In accordance with the Farm Credit Administration'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.

9. FAIR VALUE DISCLOSURES

Fair Value Classification and Transfers

The following tables present information about Farmer Mac's assets and liabilities measured at fair value on a recurring basis as of June 30, 2022 and December 31, 2021, respectively, and indicate the fair value hierarchy of the valuation techniques used by Farmer Mac to determine such fair value:

Table 9.1

Assets and Liabilities Measured at Fair Value as of June 30, 2022

	Level 1	Level 2	Level 3 ⁽¹⁾	Total
	(in thousands)			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,061	\$ 19,061
Floating rate Government/GSE guaranteed mortgage-backed securities	—	2,372,459	—	2,372,459
Fixed rate GSE guaranteed mortgage-backed securities	—	677,678	—	677,678
Fixed rate U.S. Treasuries	1,176,814	—	—	1,176,814
Total Available-for-sale Investment Securities	1,176,814	3,050,137	19,061	4,246,012
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	6,440,396	6,440,396
Farmer Mac Guaranteed Securities	—	—	9,816	9,816
Total Farmer Mac Guaranteed Securities	—	—	6,450,212	6,450,212
USDA Securities:				
Trading	—	—	2,275	2,275
Total USDA Securities	—	—	2,275	2,275
Financial derivatives	350	29,661	—	30,011
Guarantee Asset	—	—	5,636	5,636
Total Assets at fair value	\$ 1,177,164	\$ 3,079,798	\$ 6,477,184	\$ 10,734,146
Liabilities:				
Financial derivatives	\$ 1,046	\$ 126,937	\$ —	\$ 127,983
Total Liabilities at fair value	\$ 1,046	\$ 126,937	\$ —	\$ 127,983

⁽¹⁾ Level 3 assets represent 25% of total assets and 60% of financial instruments measured at fair value.

Assets and Liabilities Measured at Fair Value as of December 31, 2021

	Level 1	Level 2	Level 3 ⁽¹⁾	Total
	(in thousands)			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,254	\$ 19,254
Floating rate Government/GSE guaranteed mortgage-backed securities	—	2,178,831	—	2,178,831
Fixed rate GSE guaranteed mortgage-backed securities	—	458,837	—	458,837
Fixed rate U.S. Treasuries	1,179,469	—	—	1,179,469
Total Available-for-sale Investment Securities	1,179,469	2,637,668	19,254	3,836,391
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	6,316,145	6,316,145
Farmer Mac Guaranteed Securities	—	—	12,414	12,414
Total Farmer Mac Guaranteed Securities	—	—	6,328,559	6,328,559
USDA Securities:				
Trading	—	—	4,401	4,401
Total USDA Securities	—	—	4,401	4,401
Financial derivatives	73	19,066	—	19,139
Guarantee Asset	—	—	6,237	6,237
Total Assets at fair value	\$ 1,179,542	\$ 2,656,734	\$ 6,358,451	\$ 10,194,727
Liabilities:				
Financial derivatives	\$ —	\$ 34,248	\$ —	\$ 34,248
Total Liabilities at fair value	\$ —	\$ 34,248	\$ —	\$ 34,248
Non-recurring:				
Assets				
Mortgage Servicing Rights	\$ —	\$ —	\$ 2,681	\$ 2,681
Total non-recurring assets at fair value	\$ —	\$ —	\$ 2,681	\$ 2,681

⁽¹⁾ Level 3 assets represent 25% of total assets and 62% of financial instruments measured at fair value.

There were no material assets or liabilities measured at fair value on a non-recurring basis as of June 30, 2022 or December 31, 2021.

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 six months ended June 30, 2022 and 2021, there were no transfers within the fair value hierarchy.

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, 2022 and 2021.

Table 9.2

Level 3 Assets and Liabilities Measured at Fair Value for the Three Months Ended June 30, 2022

	Beginning Balance	Purchases	Sales	Settlements	Allowance for Losses	Realized and unrealized (losses)/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	\$ 18,961	\$ —	\$ —	\$ —	\$ 1	\$ —	\$ 99	\$ 19,061
Total available-for-sale	18,961	—	—	—	1	—	99	19,061
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	6,589,224	520,000	—	(513,342)	84	(149,205)	(6,365)	6,440,396
Farmer Mac Guaranteed Securities	11,022	—	—	(358)	—	—	(848)	9,816
Total available-for-sale	6,600,246	520,000	—	(513,700)	84	(149,205)	(7,213)	6,450,212
USDA Securities:								
Trading	3,386	—	—	(1,140)	—	29	—	2,275
Total USDA Securities	3,386	—	—	(1,140)	—	29	—	2,275
Guarantee and commitment obligations:								
Guarantee Asset	6,138	—	—	(188)	—	(314)	—	5,636
Total Guarantee and commitment obligations	6,138	—	—	(188)	—	(314)	—	5,636
Total Assets at fair value	<u>\$ 6,628,731</u>	<u>\$ 520,000</u>	<u>\$ —</u>	<u>\$ (515,028)</u>	<u>\$ 85</u>	<u>\$ (149,490)</u>	<u>\$ (7,114)</u>	<u>\$ 6,477,184</u>

Level 3 Assets and Liabilities Measured at Fair Value for the Three Months Ended June 30, 2021

Level 3 Assets and Liabilities Measured at Fair Value for the Three Months Ended June 30, 2021								
	Beginning Balance	Purchases	Sales	Settlements	Allowance for Losses	Realized and unrealized gains/(losses) 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	\$ 19,146	\$ —	\$ —	\$ —	\$ 3	\$ —	\$ 99	\$ 19,248
Total available-for-sale	19,146	—	—	—	3	—	99	19,248
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	6,763,209	417,500	—	(310,403)	(93)	49,939	(42,747)	6,877,405
Total available-for-sale	6,763,209	417,500	—	(310,403)	(93)	49,939	(42,747)	6,877,405
USDA Securities:								
Trading	5,578	—	—	(467)	—	(61)	—	5,050
Total USDA Securities	5,578	—	—	(467)	—	(61)	—	5,050
Total Assets at fair value	\$ 6,787,933	\$ 417,500	\$ —	\$ (310,870)	\$ (90)	\$ 49,878	\$ (42,648)	\$ 6,901,703

Level 3 Assets and Liabilities Measured at Fair Value for the Six Months Ended June 30, 2022

2019 Assets and Liabilities Included at Fair Value for the Six Months Ended June 30, 2019								
	Beginning Balance	Purchases	Sales	Settlements	Allowance for Losses	Realized and unrealized losses included in Income	Unrealized 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	\$ 19,254	\$ —	\$ —	\$ —	\$ 3	\$ —	\$ (196)	\$ 19,061
Total available-for-sale	19,254	—	—	—	3	—	(196)	19,061
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	6,316,145	1,352,750	—	(808,626)	(334)	(359,792)	(59,747)	6,440,396
Farmer Mac Guaranteed Securities	12,414	—	—	(737)	—	—	(1,861)	9,816
Total available-for-sale	6,328,559	1,352,750	—	(809,363)	(334)	(359,792)	(61,608)	6,450,212
USDA Securities:								
Trading	4,401	—	—	(2,092)	—	(34)	—	2,275
Total USDA Securities	4,401	—	—	(2,092)	—	(34)	—	2,275
Guarantee and commitment obligations:								
Guarantee Asset	6,237	—	—	(443)	—	(158)	—	5,636
Total Guarantee and commitment obligations	6,237	—	—	(443)	—	(158)	—	5,636
Total Assets at fair value	\$ 6,358,451	\$ 1,352,750	\$ —	\$ (811,898)	\$ (331)	\$ (359,984)	\$ (61,804)	\$ 6,477,184

Level 3 Assets and Liabilities Measured at Fair Value for the Six Months Ended June 30, 2021

	Beginning Balance	Purchases	Sales	Settlements	Allowance for Losses	Realized and unrealized losses included in Income	Unrealized gains 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	\$ 19,171	\$ —	\$ —	\$ —	\$ (22)	\$ —	\$ 99	\$ 19,248
Total available-for-sale	19,171	—	—	—	(22)	—	99	19,248
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	6,947,701	578,115	—	(554,235)	89	(118,803)	24,538	6,877,405
Total available-for-sale	6,947,701	578,115	—	(554,235)	89	(118,803)	24,538	6,877,405
USDA Securities:								
Trading	6,695	—	—	(1,570)	—	(75)	—	5,050
Total USDA Securities	6,695	—	—	(1,570)		(75)	—	5,050
Total Assets at fair value	\$ 6,973,567	\$ 578,115	\$ —	\$ (555,805)	\$ 67	\$ (118,878)	\$ 24,637	\$ 6,901,703

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, 2022 and December 31, 2021:

Table 9.3

Financial Instruments	As of June 30, 2022			
	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	\$ 19,061	Indicative bids	Range of broker quotes	97.0% - 97.0% (97.0%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 6,440,396	Discounted cash flow	Discount rate	3.1% - 4.0% (3.8%)
Farmer Mac Guaranteed Securities	\$ 9,816	Discounted cash flow	Discount rate	4.1% - 4.6% (4.4%)
			CPR	8%
USDA Securities	\$ 2,275	Discounted cash flow	Discount rate	4.0% - 4.1% (4.1%)
			CPR	22% - 23% (23%)
Guarantee Asset	\$ 5,636	Discounted cash flow	Discount rate	4.7% - 5.2% (4.9%)
			CPR	8%
As of December 31, 2021				
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	\$ 19,254	Indicative bids	Range of broker quotes	98.0% - 98.0% (98.0%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 6,316,145	Discounted cash flow	Discount rate	0.9% - 2.1% (1.7%)
Farmer Mac Guaranteed Securities	\$ 12,414	Discounted cash flow	Discount rate	2.3% - 2.8% (2.6%)
			CPR	8.0%
USDA Securities	\$ 4,401	Discounted cash flow	Discount rate	1.4% - 3.1% (2.8%)
			CPR	25% - 42% (39%)
Guarantee Asset	\$ 6,237	Discounted cash flow	Discount rate	5.4% - 5.8% (5.6%)
			CPR	7% - 12% (8%)

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 do not 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, 2022 and December 31, 2021:

Table 9.4

	As of June 30, 2022		As of December 31, 2021	
	Fair Value	Carrying Amount	Fair Value	Carrying Amount
	(in thousands)			
Financial assets:				
Cash and cash equivalents	\$ 909,430	\$ 909,430	\$ 908,785	\$ 908,785
Investment securities	4,292,220	4,292,581	3,884,202	3,882,590
Farmer Mac Guaranteed Securities	8,096,651	8,139,681	8,360,293	8,361,798
USDA Securities	2,252,884	2,433,105	2,536,473	2,440,732
Loans	9,473,493	9,734,013	9,814,642	9,248,678
Financial derivatives	30,011	30,011	19,139	19,139
Guarantee and commitment fees receivable	46,641	44,388	42,533	45,538
Financial liabilities:				
Notes payable	22,811,953	23,474,095	22,716,791	22,716,156
Debt securities of consolidated trusts held by third parties	818,159	866,107	1,005,306	981,379
Financial derivatives	127,983	127,983	34,248	34,248
Guarantee and commitment obligations	45,243	42,990	40,920	43,926

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.

10. BUSINESS SEGMENT REPORTING

The following table presents the alignment of the Farmer Mac's seven segments:

Agricultural Finance		Rural Infrastructure Finance		Treasury		
Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Funding	Investments	Corporate

The financial information presented below reflects the accounts of Farmer Mac and its subsidiaries on a consolidated basis. Accordingly, the core earnings for Farmer Mac's segments would differ from any stand-alone financial statements of Farmer Mac's subsidiaries. These differences would be due to various factors, including the exclusion of unrealized gains and losses related to fair value changes of trading assets and financial derivatives, as well as the allocation of certain expenses such as operating expenses, dividends and interest expense related to the issuance of capital and the issuance of indebtedness managed at the corporate level.

The following tables present core earnings for Farmer Mac's segments and a reconciliation to consolidated net income for the three and six months ended June 30, 2022 and 2021. The amounts for the three and six months ended June 30, 2021 have been revised to conform to the current year's segment alignment.

Table 10.1

Core Earnings by Business Segment
For the Three Months Ended June 30, 2022

	Agricultural Finance		Rural Infrastructure		Treasury				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Funding	Investments	Corporate	Reconciling Adjustments	Consolidated Net Income
	(in thousands)								
Net interest income	\$ 33,670	\$ 6,929	\$ 3,772	\$ 468	\$ 25,845	\$ (1,282)	\$ —	\$ —	\$ 69,402
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(1,080)	—	(39)	—	(7,337)	—	—	8,456	—
Net effective spread	32,590	6,929	3,733	468	18,508	(1,282)	—	8,456	—
Guarantee and commitment fees	4,338	43	308	20	—	—	—	(1,496)	3,213
Other income/(expense) ⁽³⁾	161	143	—	—	—	—	3	3,619	3,926
Total revenues	37,089	7,115	4,041	488	18,508	(1,282)	3	10,579	76,541
Release of/(provision for) losses	857	(650)	1,172	(8)	—	1	—	—	1,372
Release of reserve for losses	111	—	52	—	—	—	—	—	163
Operating expenses	—	—	—	—	—	—	(20,048)	—	(20,048)
Total non-interest expense	111	—	52	—	—	—	(20,048)	—	(19,885)
Core earnings before income taxes	38,057	6,465	5,265	480	18,508	(1,281)	(20,045)	10,579 ⁽⁴⁾	58,028
Income tax (expense)/benefit	(7,991)	(1,357)	(1,105)	(101)	(3,887)	269	4,263	(2,223)	(12,132)
Core earnings before preferred stock dividends	30,066	5,108	4,160	379	14,621	(1,012)	(15,782)	8,356 ⁽⁴⁾	45,896
Preferred stock dividends	—	—	—	—	—	—	(6,792)	—	(6,792)
Segment core earnings/(losses)	\$ 30,066	\$ 5,108	\$ 4,160	\$ 379	\$ 14,621	\$ (1,012)	\$ (22,574)	\$ 8,356 ⁽⁴⁾	\$ 39,104
Total Assets	\$13,686,589	\$1,521,102	\$5,632,551	\$ 126,513	\$ —	\$ 4,802,159	\$ 147,489	\$ —	25,916,403
Total on- and off-balance sheet program assets at principal balance	\$16,591,999	\$1,567,311	\$6,172,063	\$ 148,018	\$ —	\$ —	\$ —	\$ —	24,479,391

- (1) Includes 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) 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 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, 2021

	Agricultural Finance		Rural Infrastructure		Treasury				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Funding	Investments	Corporate	Reconciling Adjustments	Consolidated Net Income
	(in thousands)								
Net interest income	\$ 30,478	\$ 6,676	\$ 1,793	\$ 378	\$ 15,678	\$ 126	\$ —	\$ —	\$ 55,129
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(1,315)	—	(34)	—	2,771	—	—	(1,422)	—
Net effective spread	29,163	6,676	1,759	378	18,449	126	—	(1,422)	—
Guarantee and commitment fees	4,010	2	313	9	—	—	—	(1,337)	2,997
Other income/(expense) ⁽³⁾	430	—	1	—	—	—	(130)	(2,994)	(2,693)
Total revenues	33,603	6,678	2,073	387	18,449	126	(130)	(5,753)	55,433
Release of/(provision for) losses	575	97	101	(15)	—	3	—	—	761
Provision for reserve for losses	181	—	41	—	—	—	—	—	222
Operating expenses	—	—	—	—	—	—	(16,878)	—	(16,878)
Total non-interest expense	181	—	41	—	—	—	(16,878)	—	(16,656)
Core earnings before income taxes	34,359	6,775	2,215	372	18,449	129	(17,008)	(5,753) ⁽⁴⁾	39,538
Income tax (expense)/benefit	(7,216)	(1,424)	(465)	(78)	(3,874)	(27)	3,621	1,211	(8,252)
Core earnings before preferred stock dividends	27,143	5,351	1,750	294	14,575	102	(13,387)	(4,542) ⁽⁴⁾	31,286
Preferred stock dividends	—	—	—	—	—	—	(5,842)	—	(5,842)
Loss on retirement of preferred stock	—	—	—	—	—	—	—	—	—
Segment core earnings/(losses)	\$ 27,143	\$ 5,351	\$ 1,750	\$ 294	\$ 14,575	\$ 102	\$ (19,229)	\$ (4,542) ⁽⁴⁾	\$ 25,444
Total Assets	\$12,327,696	\$1,661,734	\$5,043,265	\$ 85,486	\$ —	\$ 5,032,632	\$ 30,432	\$ —	\$ 24,181,245
Total on- and off-balance sheet program assets at principal balance	\$14,873,926	\$1,664,059	\$5,566,591	\$ 92,585	\$ —	\$ —	\$ —	\$ —	\$ 22,197,161

- (1) Includes 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) 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 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, 2022

	Agricultural Finance		Rural Infrastructure		Treasury				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Funding	Investments	Corporate	Reconciling Adjustments	Consolidated Net Income
	(in thousands)								
Net interest income	\$ 65,024	\$ 14,138	\$ 6,965	\$ 843	\$ 45,585	\$ (1,278)	\$ —	\$ —	\$ 131,277
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(2,080)	—	(73)	—	(10,339)	—	—	12,492	—
Net effective spread	62,944	14,138	6,892	843	35,246	(1,278)	—	12,492	—
Guarantee and commitment fees	8,554	62	620	30	—	—	—	(2,358)	6,908
Other income/(expense) ⁽³⁾	561	257	—	—	—	—	3	19,791	20,612
Total revenues	72,059	14,457	7,512	873	35,246	(1,278)	3	29,925	158,797
Release of/(provision for) losses	347	(1,165)	2,341	(210)	—	3	—	—	1,316
Release of reserve for losses	185	—	88	—	—	—	—	—	273
Operating expenses	—	—	—	—	—	—	(41,436)	—	(41,436)
Total non-interest expense	185	—	88	—	—	—	(41,436)	—	(41,163)
Core earnings before income taxes	72,591	13,292	9,941	663	35,246	(1,275)	(41,433)	29,925 ⁽⁴⁾	118,950
Income tax (expense)/benefit	(15,243)	(2,791)	(2,087)	(139)	(7,402)	268	8,461	(6,284)	(25,217)
Core earnings before preferred stock dividends	57,348	10,501	7,854	524	27,844	(1,007)	(32,972)	23,641 ⁽⁴⁾	93,733
Preferred stock dividends	—	—	—	—	—	—	(13,583)	—	(13,583)
Segment core earnings/(losses)	<u>\$ 57,348</u>	<u>\$ 10,501</u>	<u>\$ 7,854</u>	<u>\$ 524</u>	<u>\$ 27,844</u>	<u>\$ (1,007)</u>	<u>\$ (46,555)</u>	<u>\$ 23,641⁽⁴⁾</u>	<u>\$ 80,150</u>
Total Assets	\$13,686,589	\$1,521,102	\$5,632,551	\$ 126,513	\$ —	\$ 4,802,159	\$ 147,489	\$ —	25,916,403
Total on- and off-balance sheet program assets at principal balance	\$16,591,999	\$1,567,311	\$6,172,063	\$ 148,018	\$ —	\$ —	\$ —	\$ —	24,479,391

- (1) Includes 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) 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 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, 2021

	Agricultural Finance		Rural Infrastructure		Treasury				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Funding	Investments	Corporate	Reconciling Adjustments	Consolidated Net Income
	(in thousands)								
Net interest income	\$ 58,124	\$ 13,597	\$ 3,547	\$ 626	\$ 32,246	\$ 240	\$ —	\$ —	\$ 108,380
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(2,500)	—	(67)	—	4,597	—	—	(2,030)	—
Net effective spread	55,624	13,597	3,480	626	36,843	240	—	(2,030)	—
Guarantee and commitment fees	7,918	10	632	14	—	—	—	(2,547)	6,027
Other income/(expense) ⁽³⁾	1,002	—	2	—	—	—	(252)	1,418	2,170
Total revenues	64,544	13,607	4,114	640	36,843	240	(252)	(3,159)	116,577
Release of/(provision for) losses	575	36	(532)	(210)	—	(21)	—	—	(152)
Provision for reserve for losses	912	—	254	—	—	—	—	—	1,166
Operating expenses	—	—	—	—	—	—	(35,759)	—	(35,759)
Total non-interest expense	912	—	254	—	—	—	(35,759)	—	(34,593)
Core earnings before income taxes	66,031	13,643	3,836	430	36,843	219	(36,011)	(3,159) ⁽⁴⁾	81,832
Income tax (expense)/benefit	(13,866)	(2,865)	(806)	(90)	(7,737)	(46)	7,427	664	(17,319)
Core earnings before preferred stock dividends	52,165	10,778	3,030	340	29,106	173	(28,584)	(2,495) ⁽⁴⁾	64,513
Preferred stock dividends	—	—	—	—	—	—	(11,111)	—	(11,111)
Segment core earnings/(losses)	\$ 52,165	\$ 10,778	\$ 3,030	\$ 340	\$ 29,106	\$ 173	\$ (39,695)	\$ (2,495) ⁽⁴⁾	\$ 53,402
Total Assets	\$12,327,696	\$1,661,734	\$5,043,265	\$ 85,486	\$ —	\$ 5,032,632	\$ 30,432	\$ —	\$ 24,181,245
Total on- and off-balance sheet program assets at principal balance	\$14,873,926	\$1,664,059	\$5,566,591	\$ 92,585	\$ —	\$ —	\$ —	\$ —	\$ 22,197,161

- (1) Includes 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) 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 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

The objective of this section of the report is to provide a discussion and analysis, from management's perspective, of the material information necessary to assess Farmer Mac's financial condition and results of operations for the quarter ended June 30, 2022. 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, 2021, as filed with the SEC on February 28, 2022 (the "2021 Annual Report").

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 and Analysis of Financial Condition and Results of Operations" section, are "forward-looking statements" as defined in 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," "continues," "estimates," "expects," "forecasts," "intends," "outlook," "plans," "potential," "project," "target," and similar terms, and future or conditional tense verbs like "could," "may," "might," "should," "will," and "would." This report includes forward-looking statements addressing Farmer Mac's:

- prospects for earnings;
- prospects for growth in business volume;
- assessment of the effect of the COVID-19 pandemic on our business, financial results, financial condition, and business plans and strategies;
- trends in net interest income and net effective spread;
- trends in portfolio credit quality, delinquencies, substandard assets, credit losses, and provisions for losses;
- assessment of economic and market trends;
- 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 2021 Annual Report, as well as 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 agricultural or rural infrastructure industries;
- fluctuations in the fair value of assets held by Farmer Mac and its subsidiaries;
- the level of 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 and geopolitics on agricultural mortgage or rural utilities lending, borrower repayment capacity, or collateral values, including fluctuations in interest rates, changes in U.S. trade policies, fluctuations in export demand for U.S. agricultural products, supply chain disruptions, increases in input costs, labor availability, volatility in commodity prices, and the effects of the conflict between Russia and Ukraine;
- the degree to which Farmer Mac is exposed to interest rate risk resulting from fluctuations in Farmer Mac's borrowing costs relative to market indexes;
- developments in the financial markets, including possible investor, analyst, and rating agency reactions to events involving government-sponsored enterprises, including Farmer Mac;
- the effects of the Federal Reserve's efforts to achieve monetary policy normalization and slow inflation;
- other factors that could hinder agricultural mortgage lending or borrower repayment capacity, including the effects of severe weather and drought, climate change, or fluctuations in agricultural real estate values; and
- the duration, mitigation efforts, spread, severity, and social and economic disruption of the ongoing COVID-19 pandemic and its effects on the business operations of agricultural and rural borrowers, the capital markets, and Farmer Mac's business operations.

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. The information in this report is not necessarily indicative of future results.

Overview

Farmer Mac is a mission-focused, purpose-driven company determined to improve the economic opportunity in rural America by increasing the availability and affordability of credit. As the nation's secondary market for agricultural and rural infrastructure loans, we provide a broad array of financial solutions to lenders that support flexible low-cost financing to farmers, ranchers, agribusinesses, renewable energy projects, rural utilities, and other related rural businesses and enterprises. Farmer Mac also serves as a critical investment tool for entities such as states, counties, municipalities, pension funds, banks, public trust funds, and credit unions. Farmer Mac offers those entities a variety of investment opportunities that may diversify their investment portfolios and provide the opportunity to earn a competitive return on their investment dollars.

Farmer Mac's performance during second quarter 2022, described in more detail below, reflects the success of our continued focus on pursuing new channels and innovative ways to further our mission to help build a strong and vital rural America. Despite ongoing macroeconomic concerns and potential headwinds such as deteriorating macroeconomic conditions, inflation, rising interest rates, the continuing COVID-19 pandemic, and war in Ukraine, Farmer Mac delivered solid financial results. These financial results in the first half of 2022 reflected a variety of factors, including: (1) the resilience of the farm economy, as producers have benefited from healthy farm incomes and liquidity from relatively high commodity prices resulting from heightened demand, with revenues rising faster than the costs of inputs; (2) an increase in Farmer Mac's outstanding business volume at higher spreads while credit quality improved; (3) Farmer Mac's disciplined approach to interest rate risk management that helps to protect earnings from the effects of interest rate volatility; and (4) Farmer Mac's effective funding strategies that resulted in advantageous funding during the first half of 2022. The discussion below of Farmer Mac's financial information includes "non-GAAP measures," which are measures of financial performance not presented in accordance with generally accepted accounting principles in the United States ("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

The following table shows our net income attributable to common stockholders and core earnings for the periods presented. Core earnings and core earnings per share are non-GAAP measures that differ from net income attributable to common stockholders and earnings per common share, respectively, by excluding the effects of fair value fluctuations and specified infrequent or unusual transactions.

Table 1

	For the Three Months Ended		
	June 30, 2022	March 31, 2022	June 30, 2021
	<i>(in thousands)</i>		
Net income attributable to common stockholders	\$ 39,104	\$ 41,046	\$ 25,444
Core earnings	30,748	25,761	29,986

The \$1.9 million sequential decrease in net income attributable to common stockholders was due to a \$10.0 million after-tax decrease in the fair value of undesignated financial derivatives. This factor was partially offset by a \$5.9 million after-tax increase in net interest income, an increase in our release of credit losses of \$1.2 million after tax, and a \$1.1 million after-tax decrease in operating expenses.

The \$13.7 million year-over-year increase in net income attributable to common stockholders was due to a \$11.3 million after-tax increase in net interest income, a \$5.1 million after-tax increase in the fair value of undesignated financial derivatives, and an increase in our release of credit losses of \$0.4 million after tax. These factors were partially offset by a \$2.5 million after-tax increase in operating expenses and a \$0.9 million increase in preferred stock dividends.

The \$5.0 million sequential increase in core earnings was due to a \$2.5 million after-tax increase in net effective spread, an increase in our release of credit losses of \$1.2 million after tax, and a \$1.1 million after-tax decrease in operating expenses.

The \$0.8 million year-over-year increase in core earnings was due to a \$3.5 million after-tax increase in net effective spread and an increase in our release of credit losses of \$0.4 million after tax. These factors

were partially offset by a \$2.5 million after-tax increase in operating expenses and a \$0.9 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

The following table shows our net interest income and net effective spread in both dollars and percentage yield or spread for the periods presented. Farmer Mac uses net effective spread, a non-GAAP measure, as an alternative 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.

Table 2

	For the Three Months Ended		
	June 30, 2022	March 31, 2022	June 30, 2021
	<i>(in thousands)</i>		
Net interest income	\$ 69,402	\$ 61,875	\$ 55,129
Net interest yield %	1.09 %	1.00 %	0.94 %
Net effective spread	\$ 60,946	\$ 57,839	\$ 56,551
Net effective spread %	0.99 %	0.97 %	1.01 %

The \$7.5 million sequential increase in net interest income was primarily due to a \$3.7 million increase in the fair value of designated financial derivatives, a \$2.1 million increase related to net new business volume and a \$1.7 million decrease in funding costs. In percentage terms, the sequential 0.09% increase was primarily attributable to an increase of 0.06% in net fair value changes from financial derivatives designated in hedge accounting relationships (designated financial derivatives) and a decrease of 0.02% in funding costs.

The \$14.3 million year-over-year increase in net interest income was primarily due to a \$7.8 million increase in the fair value of designated financial derivatives, a \$4.3 million increase from net new business volume, and a \$2.5 million decrease in funding costs. In percentage terms, the year-over-year 0.15% increase was primarily attributable to an increase of 0.12% in net fair value changes from designated financial derivatives and a decrease of 0.05% in funding costs.

The \$3.1 million sequential increase in net effective spread in dollars was primarily due to an increase of \$2.2 million from net new business volume, a \$0.2 million decrease in non-GAAP funding costs, and a \$0.7 million increase in cash-basis interest income. In percentage terms, the sequential increase of 0.02% was primarily attributable to a decrease of 0.02% in non-GAAP funding costs.

The \$4.4 million year-over-year increase in net effective spread in dollars was primarily due to a \$4.8 million increase from net new business volume, a \$0.9 million increase in net coupon yields related to the acquisition of loan servicing rights, and a \$0.4 million increase in cash-basis interest income. These

factors were partially offset by a \$1.4 million increase in non-GAAP funding costs. In percentage terms, the year-over-year decrease of 0.02% was primarily attributable to an increase of 0.02% in non-GAAP funding costs.

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 11 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 \$24.5 billion as of June 30, 2022, a net increase of \$0.2 billion from March 31, 2022 after taking into account all new business, maturities, sales, and paydowns on existing assets. The net increase was primarily attributable to net increases of \$0.2 billion in the Rural Infrastructure Finance line of business and \$43.0 million in the Agricultural Finance line of business.

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

Table 3

	As of	
	June 30, 2022	December 31, 2021
	<i>(in thousands)</i>	
Core capital	\$ 1,261,832	\$ 1,200,560
Capital in excess of minimum capital level required	506,290	486,810

The increase in capital in excess of the minimum capital level required was primarily due to an increase in retained earnings.

Credit Quality

The following table presents Agricultural Finance on-balance sheet loan purchase and off-balance sheet LTSPCs and Farmer Mac Guaranteed Securities substandard assets, in dollars and as a percentage of the respective portfolio as of June 30, 2022, March 31, 2022, and December 31, 2021:

Table 4

	On-Balance Sheet		Off-Balance Sheet	
	Substandard Assets	% of Portfolio	Substandard Assets	% of Portfolio
<i>(dollars in thousands)</i>				
June 30, 2022	\$ 169,310	2.4 %	\$ 44,362	1.5 %
March 31, 2022	181,303	2.6 %	34,516	1.2 %
December 31, 2021	185,758	2.7 %	60,922	2.1 %
Increase/(decrease) from prior quarter-ending	\$ (11,993)	(0.2)%	\$ 9,846	0.3 %
Increase/(decrease) from prior year-ending	\$ (16,448)	(0.3)%	\$ (16,560)	(0.6)%

The decrease of \$12.0 million in on-balance sheet substandard assets during second quarter was primarily driven by credit upgrades during the quarter in crops, livestock, and agricultural storage and processing, partially offset by credit downgrades in permanent plantings and part-time farms. The on-balance sheet Agricultural Finance mortgage loan portfolio grew by \$266.6 million, which, when coupled with credit upgrades, caused the percentage of substandard assets to decrease. The \$9.8 million increase in substandard assets in our off-balance sheet LTSPC and Farmer Mac Guaranteed Securities portfolios during second quarter was primarily due to credit downgrades in permanent plantings, crops, and part-time farms, partially offset by credit upgrades in livestock.

There were no substandard assets in the Rural Infrastructure Finance portfolio as of June 30, 2022 and one loan classified as substandard in that portfolio as of December 31, 2021.

For an analysis of current loan-to-value ratios across substandard and other internally assigned risk ratings, see Table 27 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Loans and Guarantees."

The following table presents 90-day delinquencies for on-balance sheet Agricultural Finance mortgage loan purchases and off-balance sheet LTSPCs and Farmer Mac Guaranteed Securities, in dollars and as a percentage of the respective balance sheet category as of June 30, 2022, March 31, 2022, and December 31, 2021:

Table 5

	On-Balance Sheet		Off-Balance Sheet	
	90-Day Delinquencies	% of Portfolio	90-Day Delinquencies	% of Portfolio
	<i>(dollars in thousands)</i>			
June 30, 2022	\$ 18,751	0.26 %	\$ 1,872	0.06 %
March 31, 2022	53,960	0.78 %	1,887	0.06 %
December 31, 2021	43,710	0.64 %	3,597	0.12 %
Increase/(decrease) from prior quarter-ending	\$ (35,209)	(0.52)%	\$ (15)	— %
Increase/(decrease) from prior year-ending	\$ (24,959)	(0.38)%	\$ (1,725)	(0.06)%

On-balance sheet Agricultural Finance loans 90 or more days delinquent decreased in all commodity groups, except part-time farms. Off-balance sheet Agricultural Finance LTSPCs and Farmer Mac Guaranteed Securities 90 days or more delinquent decreased in crops and permanent plantings, partially offset by increases in part-time farms. The top ten borrower exposures over 90 days delinquent in either the on- or off-balance sheet Agricultural Finance portfolio represented over half of the aggregate 90-day delinquencies as of June 30, 2022.

As of both June 30, 2022 and December 31, 2021, there were no 90-day delinquencies in Farmer Mac's portfolio of Rural Infrastructure Finance loan purchases and loans underlying LTSPCs.

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."

COVID-19 Pandemic

Farmer Mac has operated successfully throughout the COVID-19 pandemic with most employees still working remotely. Farmer Mac has adopted a "Presence with Purpose" work arrangement, a flexible, hybrid approach under which employees spend a combination of time working remotely or in one of Farmer Mac's offices depending on the nature of the work and the related business needs. Farmer Mac has maintained uninterrupted access to the debt capital markets and remains a source of capital and liquidity to rural borrowers facing economic or market volatility stemming from the ongoing pandemic. For more information on the effects of the COVID-19 pandemic on Farmer Mac's business, see "Business—Human Capital" in the 2021 Annual Report and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Outlook" in the 2021 Annual Report and in this report.

Use of Non-GAAP Measures

In the accompanying analysis of its financial information, Farmer Mac 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

The main difference between core earnings and core earnings per share (non-GAAP measures) and net income attributable to common stockholders and earnings per common share (GAAP measures) is that those non-GAAP measures exclude 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. Another difference is that these two non-GAAP measures exclude 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 example, we have excluded from core earnings and core earnings per share any losses on retirement of preferred stock. 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. As further explained below, net effective spread differs from net interest income and net interest yield by excluding certain items from net interest income and net interest yield and including certain other items that net interest income and net interest yield do not contain.

Farmer Mac 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 accounting 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 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 11 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Results of Operations

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 6

Reconciliation of Net Income Attributable to Common Stockholders to Core Earnings

	For the Three Months Ended	
	June 30, 2022	June 30, 2021
	<i>(in thousands, except per share amounts)</i>	
Net income attributable to common stockholders	\$ 39,104	\$ 25,444
Less reconciling items:		
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 14)	2,473	(3,721)
Gains/(losses) on hedging activities due to fair value changes	5,916	(2,097)
Unrealized losses on trading securities	(285)	(61)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(62)	20
Net effects of terminations or net settlements on financial derivatives	2,536	109
Income tax effect related to reconciling items	(2,222)	1,208
Sub-total	8,356	(4,542)
Core earnings	\$ 30,748	\$ 29,986
Composition of Core Earnings:		
Revenues:		
Net effective spread ⁽¹⁾	\$ 60,946	\$ 56,551
Guarantee and commitment fees ⁽²⁾	4,709	4,334
Other ⁽³⁾	307	301
Total revenues	65,962	61,186
Credit related expense (GAAP):		
Release of losses	(1,535)	(983)
Total credit related expense	(1,535)	(983)
Operating expenses (GAAP):		
Compensation and employee benefits	11,715	9,779
General and administrative	7,520	6,349
Regulatory fees	813	750
Total operating expenses	20,048	16,878
Net earnings	47,449	45,291
Income tax expense ⁽⁴⁾	9,909	9,463
Preferred stock dividends (GAAP)	6,792	5,842
Core earnings	\$ 30,748	\$ 29,986
Core earnings per share:		
Basic	\$ 2.85	\$ 2.79
Diluted	\$ 2.83	\$ 2.77
Weighted-average shares:		
Basic	10,796	10,763
Diluted	10,864	10,838

⁽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 11 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, 2022	June 30, 2021
	(in thousands, except per share amounts)	
Net income attributable to common stockholders	\$ 80,150	\$ 53,402
Less reconciling items:		
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 14)	4,171	(2,026)
Gains/(losses) on hedging activities due to fair value changes	7,940	(2,368)
Unrealized losses on trading securities	(191)	(75)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(42)	36
Net effects of terminations or net settlements on financial derivatives	18,048	1,274
Income tax effect related to reconciling items	(6,285)	664
Sub-total	23,641	(2,495)
Core earnings	\$ 56,509	\$ 55,897
Composition of Core Earnings:		
Revenues:		
Net effective spread ⁽¹⁾	\$ 118,785	\$ 110,410
Guarantee and commitment fees ⁽²⁾	9,266	8,574
Other ⁽³⁾	821	752
Total revenues	128,872	119,736
Credit related expense (GAAP):		
Release of losses	(1,589)	(1,014)
Total credit related expense	(1,589)	(1,014)
Operating expenses (GAAP):		
Compensation and employee benefits	25,013	21,574
General and administrative	14,798	12,685
Regulatory fees	1,625	1,500
Total operating expenses	41,436	35,759
Net earnings	89,025	84,991
Income tax expense ⁽⁴⁾	18,933	17,983
Preferred stock dividends (GAAP)	13,583	11,111
Core earnings	\$ 56,509	\$ 55,897
Core earnings per share:		
Basic	\$ 5.24	\$ 5.20
Diluted	\$ 5.20	\$ 5.16
Weighted-average shares:		
Basic	10,782	10,751
Diluted	10,876	10,829

⁽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 11 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 7

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, 2022	June 30, 2021	June 30, 2022	June 30, 2021
<i>(in thousands, except per share amounts)</i>				
GAAP - Basic EPS	\$ 3.62	\$ 2.36	\$ 7.43	\$ 4.96
Less reconciling items:				
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 14)	0.23	(0.35)	0.39	(0.19)
Gains/(losses) on hedging activities due to fair value changes	0.55	(0.19)	0.74	(0.22)
Unrealized losses on trading securities	(0.03)	(0.01)	(0.02)	(0.01)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.01)	—	—	—
Net effects of terminations or net settlements on financial derivatives	0.24	0.01	1.67	0.12
Income tax effect related to reconciling items	(0.21)	0.11	(0.59)	0.06
Sub-total	0.77	(0.43)	2.19	(0.24)
Core Earnings - Basic EPS	\$ 2.85	\$ 2.79	\$ 5.24	\$ 5.20
Shares used in per share calculation (GAAP and Core Earnings)	10,796	10,763	10,782	10,751

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, 2022	June 30, 2021	June 30, 2022	June 30, 2021
<i>(in thousands, except per share amounts)</i>				
GAAP - Diluted EPS	\$ 3.60	\$ 2.35	\$ 7.37	\$ 4.93
Less reconciling items:				
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 14)	0.23	(0.34)	0.38	(0.18)
Gains/(losses) on hedging activities due to fair value changes	0.55	(0.19)	0.73	(0.22)
Unrealized losses on trading securities	(0.03)	(0.01)	(0.02)	(0.01)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.01)	—	—	—
Net effects of terminations or net settlements on financial derivatives	0.23	0.01	1.66	0.12
Income tax effect related to reconciling items	(0.20)	0.11	(0.58)	0.06
Sub-total	0.77	(0.42)	2.17	(0.23)
Core Earnings - Diluted EPS	\$ 2.83	\$ 2.77	\$ 5.20	\$ 5.16
Shares used in per share calculation (GAAP and Core Earnings)	10,864	10,838	10,876	10,829

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 6 above: (a) Gains/(losses) on undesignated financial derivatives due to fair value changes; and (b) Gains/(losses) on hedging activities due to fair value changes. The table below calculates the non-GAAP reconciling item for gains/(losses) on hedging activities due to fair value changes:

Table 8

Non-GAAP Reconciling Items for Gains/(Losses) on Hedging Activities due to Fair Value Changes				
	For the Three Months Ended		For the Six Months Ended	
	June 30, 2022	June 30, 2021	June 30, 2022	June 30, 2021
<i>(in thousands)</i>				
Gains/(losses) due to fair value changes (see Table 4.2)	\$ 6,037	\$ (1,725)	\$ 8,403	\$ (1,379)
Initial cash payment (received) at inception of swap	(121)	(372)	(463)	(989)
Gains/(losses) on hedging activities due to fair value changes	\$ 5,916	\$ (2,097)	\$ 7,940	\$ (2,368)

2. Unrealized gains/(losses) 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. The net effects of 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/(losses) 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 purposes of core earnings, 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 25 years.

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, 2022 and 2021. 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 9

	For the Six Months Ended					
	June 30, 2022			June 30, 2021		
	Average Balance	Income/Expense	Average Rate	Average Balance	Income/Expense	Average Rate
	<i>(dollars in thousands)</i>					
Interest-earning assets:						
Cash and investments	\$ 5,045,219	\$ 16,916	0.67 %	\$ 4,827,210	\$ 9,986	0.41 %
Loans, Farmer Mac Guaranteed Securities and USDA Securities ⁽¹⁾	19,242,681	224,243	2.33 %	17,477,294	183,584	2.10 %
Total interest-earning assets	24,287,900	241,159	1.99 %	22,304,504	193,570	1.74 %
Funding:						
Notes payable due within one year	2,675,834	5,951	0.44 %	4,243,254	2,520	0.12 %
Notes payable due after one year ⁽²⁾	20,501,101	106,132	1.04 %	17,331,371	85,217	0.98 %
Total interest-bearing liabilities ⁽³⁾	23,176,935	112,083	0.97 %	21,574,625	87,737	0.81 %
Net non-interest-bearing funding	1,110,965	—		729,879	—	
Total funding	24,287,900	112,083	0.92 %	22,304,504	87,737	0.79 %
Net interest income/yield prior to consolidation of certain trusts	24,287,900	129,076	1.06 %	22,304,504	105,833	0.95 %
Net effect of consolidated trusts ⁽⁴⁾	866,438	2,201	0.51 %	1,130,069	2,547	0.45 %
Net interest income/yield	<u>\$ 25,154,338</u>	<u>\$ 131,277</u>	1.04 %	<u>\$ 23,434,573</u>	<u>\$ 108,380</u>	0.93 %

⁽¹⁾ Excludes interest income of \$16.0 million and \$20.9 million in first half of 2022 and 2021, 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 \$13.8 million and \$18.4 million in first half of 2022 and 2021, 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.

The \$22.9 million year-over-year increase in net interest income was primarily due to a \$9.8 million increase in the fair value of derivatives designated in fair value hedge accounting relationships (designated financial derivatives), a \$7.3 million decrease in funding costs, a \$5.9 million increase from net new business volume, and a \$1.2 million increase in cash-basis interest income. In percentage terms, the year-over-year 0.11% increase was primarily attributable to an increase of 0.08% in net fair value changes from designated financial derivatives and a decrease of 0.06% in funding costs.

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), and then allocated based on the relative size of rate and volume changes from the prior period.

Table 10

	For the Six Months Ended June 30, 2022 Compared to Same Period in 2021		
	Increase/(Decrease) Due to		
	Rate	Volume	Total
	(in thousands)		
Income from interest-earning assets:			
Cash and investments	\$ 6,460	\$ 470	\$ 6,930
Loans, Farmer Mac Guaranteed Securities and USDA Securities	21,141	19,518	40,659
Total	27,601	19,988	47,589
Expense from other interest-bearing liabilities	17,482	6,864	24,346
Change in net interest income prior to consolidation of certain trusts ⁽¹⁾	\$ 10,119	\$ 13,124	\$ 23,243

⁽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 accounting 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 net effective spread.

Table 11

	For the Three Months Ended				For the Six Months Ended			
	June 30, 2022		June 30, 2021		June 30, 2022		June 30, 2021	
	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield
	<i>(dollars in thousands)</i>							
Net interest income/yield	\$ 69,402	1.09 %	\$ 55,129	0.94 %	\$131,277	1.04 %	\$108,380	0.93 %
Net effects of consolidated trusts	(1,183)	0.02 %	(1,337)	0.02 %	(2,201)	0.02 %	(2,547)	0.02 %
Expense related to undesignated financial derivatives	(2,026)	(0.03)%	970	0.02 %	(3,020)	(0.02)%	3,038	0.03 %
Amortization of premiums/discounts on assets consolidated at fair value	65	— %	(13)	— %	49	— %	(20)	— %
Amortization of losses due to terminations or net settlements on financial derivatives	725	0.01 %	77	— %	1,083	0.01 %	180	— %
Fair value changes on fair value hedge relationships	(6,037)	(0.10)%	1,725	0.03 %	(8,403)	(0.07)%	1,379	0.01 %
Net effective spread	<u>\$ 60,946</u>	<u>0.99 %</u>	<u>\$ 56,551</u>	<u>1.01 %</u>	<u>\$118,785</u>	<u>0.98 %</u>	<u>\$110,410</u>	<u>0.99 %</u>

The \$8.4 million year-over-year increase in net effective spread in dollars was primarily due to an increase of \$9.0 million from net new business volume, a \$3.1 million decrease in funding costs, a \$1.7 million increase in net coupon yields related to the acquisition of loan servicing rights, and a \$1.2 million increase in cash-basis interest income. In percentage terms, net effective spread decreased by 0.01% as a result of decreased spreads on net new business volume.

See Note 10 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 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, 2022 and 2021:

Table 12

	As of June 30, 2022			As of June 30, 2021		
	Allowance for Losses	Reserve for Losses	Total Allowance for Losses	Allowance for Losses	Reserve for Losses	Total Allowance for Losses
	(in thousands)					
For the Three Months Ended						
Beginning balance	\$ 14,464	\$ 1,840	\$ 16,304	\$ 15,211	\$ 2,333	\$ 17,544
Release of losses	(1,372)	(163)	(1,535)	(761)	(222)	(983)
Charge-offs	—	—	—	—	—	—
Ending balance	<u>\$ 13,092</u>	<u>\$ 1,677</u>	<u>\$ 14,769</u>	<u>\$ 14,450</u>	<u>\$ 2,111</u>	<u>\$ 16,561</u>
For the Six Months Ended						
Beginning balance	\$ 14,492	\$ 1,950	\$ 16,442	\$ 14,298	\$ 3,277	\$ 17,575
(Release of)/provision for losses	(1,316)	(273)	(1,589)	152	(1,166)	(1,014)
Charge-offs	(84)	—	(84)	—	—	—
Ending balance	<u>\$ 13,092</u>	<u>\$ 1,677</u>	<u>\$ 14,769</u>	<u>\$ 14,450</u>	<u>\$ 2,111</u>	<u>\$ 16,561</u>

See Notes 5 and 6 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."

During the three and six months ended June 30, 2022, we recorded a \$1.5 million and \$1.6 million release from the allowance for losses, respectively, primarily as a result of updated credit loss model forecast assumptions and improvements in risk ratings. These factors were partially offset by increased loan volume and a risk rating downgrade of one agricultural storage and processing loan.

Guarantee and Commitment Fees. The following table presents 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, for the three and six months ended June 30, 2022 and 2021:

Table 13

	For the Three Months Ended				For the Six Months Ended			
			Change				Change	
	June 30, 2022	June 30, 2021	\$	%	June 30, 2022	June 30, 2021	\$	%
	<i>(dollars in thousands)</i>							
Contractual guarantee fees	\$ 3,560	\$ 2,997	\$ 563	19 %	\$ 7,062	\$ 6,027	\$ 1,035	17 %
Guarantee obligation amortization	1,596	1,518	78	5 %	3,791	4,227	(436)	(10)%
Guarantee asset fair value changes	(1,943)	(1,518)	(425)	28 %	(3,945)	(4,227)	282	(7)%
Guarantee fee income	<u>\$ 3,213</u>	<u>\$ 2,997</u>	<u>\$ 216</u>	7 %	<u>\$ 6,908</u>	<u>\$ 6,027</u>	<u>\$ 881</u>	15 %

Guarantee and commitment fees increased for the three and six months ended June 30, 2022 compared to 2021, which was due to increases in the average outstanding balance of LTSPCs and off-balance sheet

Farmer Mac Guaranteed Securities during second quarter 2022. As adjusted for the core earnings presentation, guarantee and commitment fees were \$4.7 million and \$9.3 million for the three and six months ended June 30, 2022, respectively, compared to \$4.3 million and \$8.6 million for the three and six months ended June 30, 2021, 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 those consolidated Farmer Mac Guaranteed Securities. Additionally, Farmer Mac has excluded guarantee asset fair value changes, because these fluctuations are not expected to have a cumulative net impact on Farmer Mac's financial condition or results of operations if Farmer Mac fulfills its guarantee obligation throughout the term of the guaranteed securities, as is expected.

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 Table 6 in "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, 2022 and 2021 are summarized in the following table:

Table 14

	For the Three Months Ended				For the Six Months Ended			
			Change				Change	
	June 30, 2022	June 30, 2021	\$	%	June 30, 2022	June 30, 2021	\$	%
	(dollars in thousands)							
Gains/(losses) due to fair value changes	\$ 2,473	\$ (3,721)	\$ 6,194	(166)%	\$ 4,171	\$ (2,026)	\$ 6,197	(306)%
Accrual of contractual payments	(2,026)	970	(2,996)	(309)%	(3,020)	3,038	(6,058)	(199)%
Gains/(losses) due to terminations or net settlements	2,971	(315)	3,286	(1,043)%	18,341	215	18,126	8,431 %
Gains/(losses) on financial derivatives	\$ 3,418	\$ (3,066)	\$ 6,484	(211)%	\$ 19,492	\$ 1,227	\$18,265	1,489 %

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 undesignated financial derivatives is shown as expense related to financial derivatives. Payments or receipts to terminate undesignated derivative positions or net cash settled forward sales contracts on the debt of other GSEs and undesignated U.S. Treasury security futures and initial cash payments received upon the inception of certain undesignated swaps are included in "Gains/(losses) due to terminations or net settlements" in the table above. For undesignated 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. 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. The following table presents other income for the three and six months ended June 30, 2022 and 2021:

Table 15

	For the Three Months Ended				For the Six Months Ended			
			Change				Change	
	June 30, 2022	June 30, 2021	\$	%	June 30, 2022	June 30, 2021	\$	%
	(dollars in thousands)							
Late fees	\$ 291	\$ 252	\$ 39	15 %	\$ 645	\$ 539	\$ 106	20 %
Servicing fees	252	—	252	N/A	532	—	532	N/A
Mortgage servicing rights amortization	(136)	—	(136)	N/A	(266)	—	(266)	N/A
Other	72	183	(111)	(61)%	243	479	(236)	(49)%
Total other income	\$ 479	\$ 435	\$ 44	10 %	\$ 1,154	\$ 1,018	\$ 136	13 %

The increase in other income for the three and six months ended June 30, 2022 compared to 2021 is primarily due to an increase in servicing fees, partially offset by a decrease in loan rate modification fees.

Operating Expenses. The components of operating expenses for the three and six months ended June 30, 2022 and 2021 are summarized in the following table:

Table 16

	For the Three Months Ended				For the Six Months Ended									
	June 30, 2022	June 30, 2021	Change		June 30, 2022	June 30, 2021	Change							
			\$	%			\$	%						
(dollars in thousands)														
Compensation and employee benefits	\$	11,715	\$	9,779	\$	1,936	20 %	\$	25,013	\$	21,574	\$	3,439	16 %
General and administrative		7,520		6,349		1,171	18 %		14,798		12,685		2,113	17 %
Regulatory fees		813		750		63	8 %		1,625		1,500		125	8 %
Total Operating Expenses	\$	20,048	\$	16,878	\$	3,170	19 %	\$	41,436	\$	35,759	\$	5,677	16 %

Compensation and Employee Benefits. The increase in compensation and employee benefits expenses for 2022 compared to 2021 was due to increased headcount and increased stock compensation.

General and Administrative Expenses (G&A). The increase in G&A expenses for 2022 compared to 2021 was primarily due to increased spending on software licenses and information technology and other consultants to support growth and strategic initiatives. We entered into a transition services agreement in connection with the strategic acquisition of loan servicing rights in third quarter 2021. Under that agreement, we have agreed to pay \$1.25 million to the seller of the servicing rights in installments through December 31, 2022 for continuing transition assistance.

Income Tax Expense. The following table presents income tax expense and the effective income tax rate for the three and six months ended June 30, 2022 and 2021:

Table 17

	For the Three Months Ended				For the Six Months Ended			
	June 30, 2022	June 30, 2021	Change		June 30, 2022	June 30, 2021	Change	
			\$	%			\$	%
<i>(dollars in thousands)</i>								
Income tax expense	\$ 12,132	\$ 8,252	\$ 3,880	47 %	\$ 25,217	\$ 17,319	\$ 7,898	46 %
Effective tax rate	20.9 %	20.9 %		— %	21.2 %	21.2 %		— %

Business Volume.

The following table sets forth the net growth or decrease in Farmer Mac's lines of business for the three and six months ended June 30, 2022 and 2021:

Table 18

		Net New Business Volume			
	On or Off Balance Sheet	For the Three Months Ended		For the Six Months Ended	
		June 30, 2022	June 30, 2021	June 30, 2022	June 30, 2021
		Net Growth/ (Decrease)	Net Growth/ (Decrease)	Net Growth/ (Decrease)	Net Growth/ (Decrease)
<i>(in thousands)</i>					
Agricultural Finance:					
Farm & Ranch:					
Loans	On-balance sheet	\$ 278,741	\$ 341,678	\$ 439,237	\$ 596,906
Loans held in consolidated trusts:					
Beneficial interests owned by third-party investors	On-balance sheet	(53,259)	(96,532)	(113,682)	(209,052)
IO-FMGS ⁽¹⁾	On-balance sheet	(358)	—	(736)	—
USDA Securities	On-balance sheet	(11,400)	(45,940)	(16,399)	(31,163)
AgVantage Securities	On-balance sheet	(160,000)	(175,000)	270,000	(375,000)
LTSPCs and unfunded commitments	Off-balance sheet	(15,863)	132,080	(24,687)	61,292
Farmer Mac Guaranteed Securities	Off-balance sheet	(20,904)	(20,412)	(54,778)	(41,951)
Loans serviced for others	Off-balance sheet	(553)	—	(1,595)	—
Total Farm & Ranch		\$ 16,404	\$ 135,874	\$ 497,360	\$ 1,032
Corporate AgFinance:					
Loans	On-balance sheet	\$ 41,151	\$ 53,092	\$ 26,314	\$ 36,913
AgVantage Securities	On-balance sheet	(22,294)	(39,508)	(14,496)	(39,186)
Unfunded Loan Commitments	Off-balance sheet	7,694	2,679	17,659	2,217
Total Corporate AgFinance		\$ 26,551	\$ 16,263	\$ 29,477	\$ (56)
Total Agricultural Finance		\$ 42,955	\$ 152,137	\$ 526,837	\$ 976
Rural Infrastructure Finance:					
Rural Utilities:					
Loans	On-balance sheet	\$ 172,089	\$ (2,714)	\$ 329,321	\$ (25,887)
AgVantage Securities	On-balance sheet	(23,477)	206,903	(46,858)	308,900
LTSPCs and Unfunded Loan Commitments	Off-balance sheet	17,005	(20,434)	(5,627)	(30,474)
Farmer Mac Guaranteed Securities	Off-balance sheet	—	—	—	—
Total Rural Utilities		\$ 165,617	\$ 183,755	\$ 276,836	\$ 252,539
Renewable Energy:					
Loans	On-balance sheet	\$ 34,053	\$ 2,179	\$ 39,536	\$ 12,043
Unfunded Loan Commitments	Off-balance sheet	(6,644)	(3,441)	21,719	7,508
Total Renewable Energy		\$ 27,409	\$ (1,262)	\$ 61,255	\$ 19,551
Total Rural Infrastructure Finance		\$ 193,026	\$ 182,493	\$ 338,091	\$ 272,090
Total		\$ 235,981	\$ 334,630	\$ 864,928	\$ 273,066

⁽¹⁾ An interest-only Farmer Mac Guaranteed Security retained as part of a structured securitization.

Farmer Mac's outstanding business volume was \$24.5 billion as of June 30, 2022, a net increase of \$0.2 billion from March 31, 2022 after taking into account all new business, maturities, sales, and paydowns on existing assets.

The \$16.4 million net increase in Farm & Ranch during second quarter 2022 resulted from \$1.4 billion of new purchases, commitments, and guarantees, mostly offset by \$1.4 billion of scheduled maturities and repayments. Farmer Mac purchased a total of \$432.6 million in loans, which was primarily driven by improved borrower economics as well as a competitive, albeit an increasing interest rate environment resulting in demand for intermediate and long-term financing solutions. The \$432.6 million in gross Farm & Ranch loan purchases was partially offset by \$153.8 million in scheduled maturities and repayments.

Farmer Mac also purchased a total of \$0.8 billion in Farm & Ranch AgVantage Securities during second quarter 2022, which primarily reflected the refinancing of maturing securities as well as financial counterparties seeking to add longer term AgVantage securities to manage their asset-liability maturity profile given recent increases in credit spreads and interest rates. The \$0.8 billion in gross purchases was more than offset by \$1.0 billion in scheduled maturities. Approximately \$0.3 billion of the total \$0.8 billion in gross purchases reflected purchases that refinanced maturing AgVantage securities and were issued at short-term tenors, which may create some volatility in AgVantage volumes throughout the year.

The \$26.6 million net increase in Corporate AgFinance during second quarter 2022 resulted from \$107.9 million of new loan purchases, which was offset by \$81.4 million of scheduled maturities, repayments, and sales. Farmer Mac purchased a total of \$85.4 million in loans, which was offset by \$44.3 million in scheduled maturities, repayments, and sales. This net increase in loans was primarily due to Farmer Mac's continued focus to support loans to larger and more complex agribusinesses focused on food and fiber processing, and other supply chain production.

The \$165.6 million net increase in Rural Utilities during second quarter 2022 resulted from \$326.9 million of new purchases, commitments, and guarantees, which was partially offset by \$161.3 million of scheduled maturities and repayments. Farmer Mac purchased a total of \$196.5 million in Rural Utilities loans; electric distribution and generation and transmission comprised \$161.5 million and telecommunication comprised \$35.0 million, which was fueled by a competitive but increasing interest rate environment resulting in demand for long-term financing solutions for planned maintenance and capital expenditures. The \$196.5 million in loan purchases was partially offset by \$24.4 million in scheduled maturities and repayments.

The \$27.4 million net increase in Renewable Energy during second quarter 2022 primarily reflects \$35.3 million in loan purchases, partially offset by \$7.9 million in repayments.

Farmer Mac's outstanding business volume was \$22.2 billion as of June 30, 2021, a net increase of \$0.3 billion from March 31, 2021 after taking into account all new business, scheduled maturities, and paydowns on existing assets.

The \$135.9 million net increase in Farm & Ranch during second quarter 2021 resulted from \$0.9 billion of new purchases and guarantees, partially offset by \$0.8 billion of scheduled maturities and repayments.

The \$16.3 million net increase in Corporate AgFinance during second quarter 2021 resulted from \$160.0 million of new purchases, partially offset by \$143.7 million of scheduled maturities and repayments.

The \$183.8 million net increase in Rural Utilities during second quarter 2021 resulted from \$410.7 million of new purchases and guarantees, which was partially offset by \$226.9 million of scheduled maturities and repayments.

The level and composition of Farmer Mac's outstanding business volume is based on the relationship between new business, loan sales, scheduled maturities, and repayments on existing assets from year to year. This relationship in turn depends on a variety of factors both internal and external to Farmer Mac. The external factors include general market forces, competition, and our counterparties' liquidity needs, access to alternative funding, desired products, and assessment of strategic factors. The internal factors include our assessment of profitability, mission fulfillment, credit risk, and customer relationships. 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 information about the Farmer Mac Guaranteed Securities issued during the periods indicated:

Table 19

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2022	June 30, 2021	June 30, 2022	June 30, 2021
	<i>(dollars in thousands)</i>			
AgVantage securities	\$ 905,796	\$ 468,616	\$ 2,847,156	\$ 911,528
Loans securitized and held in consolidated trusts with beneficial interests owned by third parties	—	—	25,928	49,133
Total Farmer Mac Guaranteed Securities Issuances	<u>\$ 905,796</u>	<u>\$ 468,616</u>	<u>\$ 2,930,937</u>	<u>\$ 960,661</u>

Farmer Mac either retains the loans it purchases or securitizes them and retains or sells Farmer Mac Guaranteed Securities backed by those loans.

During the three and six months ended June 30, 2022 and 2021, Farmer Mac realized no gains or losses from the securitization of loans that it holds in consolidated trusts. Farmer Mac consolidates these loans and presents them as "Loans held for investment in consolidated trusts, at amortized cost" on the consolidated balance sheets.

During the three and six months ended June 30, 2022 and 2021, Farmer Mac realized no gains or losses from the issuance of Farmer Mac Guaranteed USDA Securities or AgVantage Securities.

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

Table 20

Outstanding Business Volume				
	On or Off Balance Sheet	As of June 30, 2022	As of December 31, 2021	
<i>(in thousands)</i>				
Agricultural Finance:				
Farm & Ranch:				
Loans	On-balance sheet	\$ 5,214,307	\$ 4,775,070	
Loans held in consolidated trusts:				
Beneficial interests owned by third-party investors	On-balance sheet	834,941	948,623	
IO-FMGS ⁽¹⁾	On-balance sheet	11,561	12,297	
USDA Securities	On-balance sheet	2,429,407	2,445,806	
AgVantage Securities	On-balance sheet	4,995,000	4,725,000	
LTSPCs and unfunded commitments	Off-balance sheet	2,562,467	2,587,154	
Farmer Mac Guaranteed Securities	Off-balance sheet	523,580	578,358	
Loans serviced for others	Off-balance sheet	20,736	22,331	
Total Farm & Ranch		\$ 16,591,999	\$ 16,094,639	
Corporate AgFinance:				
Loans	On-balance sheet	\$ 1,149,614	\$ 1,123,300	
AgVantage Securities	On-balance sheet	352,968	367,464	
Unfunded Loan Commitments	Off-balance sheet	64,729	47,070	
Total Corporate AgFinance		\$ 1,567,311	\$ 1,537,834	
Total Agricultural Finance		\$ 18,159,310	\$ 17,632,473	
Rural Infrastructure Finance:				
Rural Utilities:				
Loans	On-balance sheet	\$ 2,631,694	\$ 2,302,373	
AgVantage Securities	On-balance sheet	2,986,404	3,033,262	
LTSPCs and Unfunded Loan Commitments	Off-balance sheet	551,210	556,837	
Farmer Mac Guaranteed Securities	Off-balance sheet	2,755	2,755	
Total Rural Utilities		\$ 6,172,063	\$ 5,895,227	
Renewable Energy:				
Loans	On-balance sheet	\$ 126,299	\$ 86,763	
Unfunded Loan Commitments	Off-balance sheet	21,719	—	
Total Renewable Energy		\$ 148,018	\$ 86,763	
Total Rural Infrastructure Finance		\$ 6,320,081	\$ 5,981,990	
Total		\$ 24,479,391	\$ 23,614,463	

⁽¹⁾ An interest-only Farmer Mac Guaranteed Security retained as part of a structured securitization.

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, 2022:

Table 21

Schedule of Principal Amortization as of June 30, 2022

	Loans	Loans Underlying Off-Balance Sheet Farmer Mac Guaranteed Securities and LTSPCs	USDA Securities and Farmer Mac Guaranteed USDA Securities	Total
	<i>(in thousands)</i>			
2022	\$ 213,051	\$ 129,844	\$ 53,834	\$ 396,729
2023	391,789	261,746	115,532	769,067
2024	397,798	204,562	112,518	714,878
2025	423,474	207,730	116,799	748,003
2026	460,363	241,698	119,567	821,628
Thereafter	8,070,380	2,456,569	2,132,713	12,659,662
Total	<u>\$ 9,956,855</u>	<u>\$ 3,502,149</u>	<u>\$ 2,650,963</u>	<u>\$ 16,109,967</u>

Of Farmer Mac's \$24.5 billion outstanding principal balance of business volume as of June 30, 2022, \$8.3 billion were AgVantage securities included in the Agricultural Finance and Rural Infrastructure Finance lines 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, 2022:

Table 22

AgVantage Balances by Year of Maturity

	As of June 30, 2022
	<i>(in thousands)</i>
2022	\$ 1,373,579
2023	1,489,463
2024	949,848
2025	561,025
2026	975,660
Thereafter ⁽¹⁾	2,987,552
Total	<u>\$ 8,337,127</u>

⁽¹⁾ Includes various maturities ranging from 2027 to 2044.

The weighted-average remaining maturity of the outstanding AgVantage securities shown in the table above was 4.9 years as of June 30, 2022.

Outlook

Farmer Mac continues to provide a stable source of liquidity, capital, and risk management tools as a secondary market that helps meet the financing needs of rural America. The pace and trajectory of Farmer Mac's growth will depend on the capital and liquidity needs of the lending institutions in servicing agriculture and rural infrastructure businesses and the overall financial health of borrowers in the sectors we serve. Farmer Mac foresees opportunities for profitable growth across our lines of business driven by several key factors:

- As agricultural and rural infrastructure lenders seek to manage equity capital and return on equity capital requirements or reduce exposure due to lending or concentration limits, Farmer Mac can provide relief for those institutions through loan and portfolio purchases, participations, guarantees, LTSPCs, or wholesale funding.
- As a result of business and product development efforts and continued interest in the agricultural asset class from institutional investors and nontraditional agricultural real estate lenders, Farmer Mac's customer base and product set continue to expand and diversify, which may generate more demand for Farmer Mac's products from new sources.
- Farmer Mac's growing relationships with larger regional and national lenders, as well as consolidation within the agricultural lending industry, continue to provide opportunities that could influence Farmer Mac's loan demand and increase the average transaction size within Farmer Mac's lines of business.
- Future growth opportunities in Farmer Mac's Rural Infrastructure Finance line of business may evolve by deepening business relationships with eligible counterparties, financing broadband-related capital expenditures and rural telecommunications facilities, growing opportunities for renewable energy project finance, 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.
- Expansion and acquisition opportunities for agricultural producers resulting from high agricultural incomes and rising costs have increased financing requirements for mergers and acquisitions, consolidation, and vertical integration across many sectors of the agricultural industry, which may also generate demand for Farmer Mac's loan products.
- Investments necessary to support consumer demand could increase the need for financing within the food and agriculture supply chain, which may increase the need for incremental capital support from the secondary market.
- Market interest rates have increased significantly since the lows experienced in 2021, and rates are slightly above Farmer Mac's 15-year historical averages. New loan origination and sales volumes tend to correlate inversely with changes in interest rates. However, prepayment rates also generally correlate inversely with changes in interest rates, with higher interest rates typically slowing the pace of portfolio loan repayments. Future changes to monetary policy and the overall level and pace of the increase in interest rates could continue to impact the pace and timing of Agricultural Finance mortgage loan purchase demand and repayments.

The war in Ukraine continues to increase volatility for commodity prices and agricultural production costs for farmers and ranchers, who were already challenged by a strong inflationary environment. While agricultural commodity prices have thus far outpaced the significant increase in input costs, the impact on global commodity markets from the Ukraine conflict creates further uncertainty for farmers and ranchers in terms of global production, prices, and costs for the remainder of 2022 and 2023. Heightened market volatility is likely to persist until there is more certainty around the timing, pace, and conclusion of the conflict in Ukraine.

In addition to continued uncertainty from supply-side disruptions, market interest rates increased rapidly in the first half of 2022, driven by the Federal Reserve's accelerated efforts to achieve monetary policy normalization and decelerate inflation. A higher interest rate environment could slow the pace of farm mortgage refinancing. While lower refinances could result in lower levels of new loan purchases in Farm & Ranch and USDA Guarantees products, it could also result in lower portfolio prepayment speeds, as was Farmer Mac's experience between 2014 and 2018. Loan prepayment speeds in the first half of 2022 fell to pre-pandemic levels, and they are likely to inversely correlate with interest rates. Farmer Mac offers a range of interest rates, tenors, and resetting options for loan products, allowing flexibility for originators and borrowers in all interest rate environments.

The U.S. economy continued to slow in the second quarter of 2022 after a rapid expansion in 2021. Higher consumer price inflation, particularly for food and energy, combined with a rising interest rate environment has curtailed economists' outlook for the U.S. economy in 2022 and into 2023. And while employment and retail spending data indicate continued but slower growth, the probability of a U.S. or global recession is increasing. Farmer Mac believes that its portfolio is sufficiently balanced to withstand the market volatility that arises with an economic recession, as the agricultural, food, and infrastructure industries tend to not be directly correlated with the general economy. Farmer Mac believes these sectors are generally well positioned to withstand an economic downturn due to ample consumer demand and government support.

Operating Expense. 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. Farmer Mac expects continued increases in its operating expenses over the next several years along with business and revenue growth. We expect these efforts to continue and increase over the next 1 - 2 years as we continue to grow our revenue and diversify our funding sources. We will continue making investments in our infrastructure and funding platforms to support these strategies and scale with our growth.

During 2021, we closed on a strategic acquisition that enhanced our operations by expanding our internal loan servicing function and acquiring the loan servicing rights for a sizeable portion of our Farm & Ranch loan and USDA Securities portfolios. This acquisition should increase our interest income on our Farm & Ranch loans and USDA Securities that we service because there will not be any third-party central servicer retaining a central servicer fee on those assets. That increased interest income is expected to be partially offset by the increase in our operating expenses relating to our enhanced internal loan servicing operations. In the short term, we do not expect the effect on core earnings to be significant. In the medium to long term, the effect will depend on the size of our portfolio that we service and the long-run costs of our servicing operations.

Agricultural Industry. The agricultural economy experienced largely favorable conditions in the second quarter 2022, with higher commodity prices partially offset by higher input prices. In response to Russia's

invasion of Ukraine, grain commodity prices rose rapidly during the first quarter of 2022 and continued to be elevated during much of the second quarter of 2022. Higher commodity prices for grains and many animal proteins are likely to substantially increase gross cash receipts for the 2022 marketing year. Farm expenses continued to rise in the second quarter of 2022, driven by rising feed, energy, interest, and labor costs. Commodity prices showed signs of moderating in June and July of 2022 due to a strengthening U.S. dollar and reduced demand due to the high-price conditions. Despite the mid-year decline, prices are likely to remain elevated as a result of the global supply shortages in food and energy.

Growth in farm income outpaced growth in expense in 2021 and in the first half of 2022. Net cash farm income increased nearly 15% in 2021 to \$134.2 billion, the highest level since 2013. Consumers have continued their return to restaurants and food service establishments in 2022, with a 13% annual increase in retail spending at food service and drinking places, according to advance retail sales data from the U.S. Census Bureau. Combined with an annual 7% increase in retail spending at food and beverage stores (e.g., grocery), consumers have demonstrated the ability to absorb increasing commodity prices in their food budgets so far in 2022.

The increase in farm profitability combined with low interest rates in 2020 and 2021 drove a rapid rise in land values and a decrease in farm delinquencies and bankruptcies. Land value survey data from the USDA show a 12.4% increase in average farm real estate values from June 2021 to June 2022. Annual farm real estate value gains were highest in the Northern Plains (19.8%) and the Corn Belt (14.9%) but also strong in the Lake states (13.7%), the Southern Plains (11.3%), and the Pacific (9.7%). The Federal Reserve Bank of Chicago AgLetter reported a 23% gain in farmland values in the Seventh District (primarily Iowa, Indiana, Illinois, and Wisconsin) between April 2021 and April 2022. Data from the Federal Reserve Bank of Kansas City show a similar rise in land values in the Tenth District (primarily Kansas, Missouri, Nebraska, and Oklahoma). Historically, rising farm real estate values have paired with an increase in real estate secured debt. 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 in farmland values than state or national averages indicate.

Economic conditions are likely to bring mixed effects to credit demand in the second half of 2022. Strong asset appreciation and rising interest rates could signal a credit cycle expansion as financial decision-makers look to lock in long-term economics for their appreciating farm and agribusiness assets. Farm profitability generally increases asset values and demand for the asset class, which also contributes to increasing credit demand. A rising interest rate environment could have mixed effects on mortgage portfolios, potentially lowering new sales and originations but also slowing portfolio prepayments. Finally, a changing yield curve coupled with widening market credit spreads could increase opportunities for corporate and institutional lending, as Farmer Mac's programs become more attractive at higher costs of capital. Combined, these factors are expected to be generally supportive of continued net portfolio growth for Farmer Mac in the second half of 2022.

Positive economic conditions in the agricultural economy improved Farmer Mac's portfolio performance in the first half of 2022, and they could continue to positively influence loan delinquencies and losses throughout the year. Farmer Mac's 90-day delinquencies and substandard assets levels improved in second quarter 2022 relative to first quarter 2022. Sixty-five percent of the loan volume past due 90-days or more in first quarter 2022 cured or paid off by June 30, 2022. The overall delinquency rate fell from 0.57% of the Farm & Ranch operating segment as of March 31, 2022 to 0.20% of the Farm & Ranch operating segment by June 30, 2022, a significant improvement and the lowest levels since 2008. The percentage of

the portfolio rated substandard also continued to improve in second quarter 2022 to the lowest levels since 2016. However, rising input costs, market volatility, and the potential for continued economic and weather-related stress increase the level of uncertainty inherent in the agricultural credit sector which could negatively effect the trajectory of the current agricultural cycle. Farmer Mac believes that its portfolio continues to be highly diversified, both geographically and by commodity and that its portfolio has been underwritten to high credit quality standards. Therefore, Farmer Mac believes that its portfolio is well-positioned to endure reasonably foreseeable volatility from cyclical and external factors. For more information about the loan balances, loan-to-value ratios, 90-day delinquencies, and substandard asset rate for the Agricultural Finance mortgage loans in Farmer Mac's portfolio as of June 30, 2022, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Loans and Guarantees."

Exogenous factors facing farm and food producers can create uncertainty and market instability within the sector. External market conditions that could adversely impact the farm and food sectors in 2022 include U.S. dollar strength, supply chain disruptions, foreign trade and trade policy, and environmental conditions. The U.S. agricultural sector has become increasingly dependent on foreign markets as a source of demand, making trade policy increasingly important to farms and food. The USDA's initial forecast for 2022 is a modest increase in export value over 2021, and through May 2022, agricultural export values are up 14% in 2022 compared to 2021. However, a deteriorating global economic outlook combined with increased tightening of U.S. central bank policy has increased the relative value of the U.S. dollar, which could provide a headwind for future export sales in 2022 and into 2023. Disruptions to global grain supplies in Ukraine and Russia could provide a temporary boost to U.S. agricultural product demand. However, slower global growth could be a headwind for consumer-oriented products like animal proteins, dairy, fruits, and nuts, and Ukrainian corn and wheat may eventually reach market. Because Farmer Mac has significant exposure to crop commodities like corn, soybeans, hay, wheat, and cotton, a sustained rally in agricultural commodities is likely to continue to benefit Farmer Mac's overall portfolio credit quality more than degradation from downward pressure on livestock and consumer product profitability.

Severe weather conditions and long-term environmental change continue to shape agricultural sectors. The U.S. experienced 20 separate billion-dollar weather disasters in 2021, the second-highest level in the 40 years tracked by the National Oceanic and Atmospheric Administration behind only 2020. Many of those events affected agriculture, including a midwestern derecho, western wildfires, and western drought. Federal crop insurance provides a strong mitigator against this risk, but farmers and ranchers face increasingly-severe weather incidents. Long and persistent drought conditions impacted western agriculture during much of 2021. Although drought conditions improved in fourth quarter 2021 and early weeks of 2022, roughly 17% of the continental U.S. remained in exceptional or extreme drought as of July 12, 2022, according to data from the National Drought Mitigation Center. Extended periods of drought and dryness can reduce agricultural productivity, cause lasting damage to permanent crops like fruit and tree nuts, and result in producers leaving some fields fallow due to lack of water. States also regulate water use, and state laws like California's Sustainable Groundwater Management Act (SGMA) will continue to shape state-led efforts to manage water infrastructure and use and could potentially impact producers. Agricultural production in California, Oregon, Washington, Arizona, and Utah is likely to experience the greatest impact from the 2021 and 2022 droughts. For loans in areas that commonly experience exceptional drought (primarily in California), Farmer Mac's underwriting process includes an assessment of anticipated long-term water availability for the related property and how that impacts the collateral value and borrower's cash flow position to mitigate that risk. For more information about Farmer Mac's environmental risk mitigation requirements, see "Management's Discussion and Analysis of Financial

Rural Infrastructure Industry. Economic conditions affecting the rural infrastructure industry generally follow those in the general economy. According to data from the U.S. Energy Information Administration, sales and the revenue from the sale of electricity to customers increased by 2.6% and 8.6%, respectively, in the last 12 months through April 2022 compared to April 2021. This increase was driven by a sharp recovery in sales to the commercial and industrial sectors and an increase in the retail price of electricity. Solid employment data, credit data, and retail sales activity remained positive economic indicators for the sector in the second quarter, but COVID-19 variants, trade disruptions, inflation, and a tight labor market continue to drag economic outlooks. Higher energy input prices such as natural gas and coal are a potential headwind for the industry in 2022. Natural gas prices rose consistently in 2021 and early 2022 because of reduced supply and additional demand for U.S. liquified natural gas from European countries. Coal prices also trended higher in the second quarter of 2022, driven by higher natural gas prices and additional overseas demand to offset limited Russian coal exports. Despite higher input costs, power producers are generally able to pass cost increases through higher retail electricity prices. Oil and natural gas prices abated in June and July, a positive signal for sector profitability in the second half of 2022. Through June 30, 2022, Farmer Mac had not observed material degradation in the financial performance of its rural infrastructure portfolio, and that portfolio has never experienced a serious delinquency or default since inception.

Prospects for loan growth within the rural infrastructure industry overall appear to be moderate in the near term, as ongoing normal-course capital expenditures related to maintaining and upgrading utility infrastructure continue at typical levels. Farmer Mac's future growth opportunities for financing the electric cooperative industry may be affected by the demand for electric power in rural areas, capital expenditures by electric cooperatives driven by regulatory or technological changes, the changing interest rate environment, increased policy initiatives to support rural connectivity, and competitive dynamics within the rural utilities cooperative finance industry. Cooperatives and service providers have access to numerous federally funded programs in 2022, such as the Federal Communications Commission's Rural Digital Opportunity Fund (RDOF), the USDA's ReConnect, and the USDA's Telecommunications Infrastructure Loan and Loan Guarantee program. In addition to capital projects spurred by these programs, Farmer Mac could see an increase in financing opportunities for other telecommunications providers in rural areas with wireless broadband increasingly important to economic opportunity and precision agriculture.

The growth in renewable energy generation and deployment of energy storage technologies may help deepen Farmer Mac's relationships with existing customers through new business opportunities. According to data from the U.S. Energy Information Administration, renewable electricity capacity is expected to grow by 48% in the next five years, compared to total electric capacity growth of 10%. The rising cost of fossil fuel-based inputs combined with the falling costs of renewable power generation may hasten this increase in capacity. This growth may broaden Farmer Mac's customer base with cooperative lenders focused on lending to renewable energy customers. In response to this growth, Farmer Mac has deployed new financing products tailored to the renewable energy sector, which represents a new market opportunity for Farmer Mac. Under this new initiative, Farmer Mac's total outstanding loans and loan commitments of renewable energy financing transactions was \$148.0 million as of June 30, 2022.

Legislative and Regulatory Outlook. Farmer Mac continues to monitor potential legislative and regulatory changes that could affect Farmer Mac or its stakeholders, including:

- Section 1005 of the American Rescue Plan Act of 2021 allows the USDA to provide debt relief to socially disadvantaged producers who had outstanding principal balances on FSA direct and guaranteed loans as of January 1, 2021. Multiple lawsuits have been filed challenging the constitutionality of the debt relief and delaying its implementation. If ultimately implemented, this provision could lead to a short-term acceleration in the prepayment of the FSA guaranteed loans in Farmer Mac's USDA Securities portfolio.
- The current farm bill is set to expire in 2023. This omnibus piece of legislation contains several programs that impact farm profitability and rural vitality, and could affect Farmer Mac's charter as well. The House and Senate Agriculture Committees began consideration of a new farm bill earlier this year. Farmer Mac will continue to monitor this legislation for any impact it may have on Farmer Mac and its stakeholders.
- Agricultural exports from the United States were valued at more than \$177 billion in the 2021 fiscal year. In 2021, Congress passed a \$550 billion bipartisan infrastructure bill that provides for key investments to improve roads, bridges, freight rail, electric, broadband, ports, and waterways that are expected to support farmers and ranchers' profitability, competitiveness, and access to global markets. The ability to produce food and fiber and transport it efficiently across the globe is critical for the U.S. food and agricultural sectors' competitiveness internationally.
- The prudential regulator of Farmer Mac is expected to undergo significant changes to its board. The three-member board of the Farm Credit Administration (FCA) currently has one vacant seat, a member whose term expired in 2018, and a third member whose term expired in May 2022. The two board members in holdover status will continue to serve until replacements for them are nominated by the President and confirmed by the U.S. Senate. The Biden Administration recently announced a nominee to the vacant seat on the FCA board. That nominee will need to be confirmed by the U.S. Senate before officially joining the FCA board. Farmer Mac will continue to monitor changes to the composition of the FCA board, as it may affect Farmer Mac's regulatory environment.

COVID-19 Pandemic. While disruptions caused by COVID-19 have significantly moderated, recent and rapid increases in cases of COVID-19 resulting from variants of coronavirus demonstrate continued uncertainty stemming from the pandemic. Farmer Mac's mission is to support rural America, and the social and economic disruptions caused by COVID-19 may continue to present new and expanded opportunities for Farmer Mac to help meet the financing needs of rural America while also presenting uncertainties and risks. See "Risk Factors" in Part I, Item 1A of Farmer Mac's 2021 Annual Report for more information about the uncertainties and risks associated with the COVID-19 pandemic on Farmer Mac and its business.

Balance Sheet Review

The following table summarizes Farmer Mac's balance sheet as of the periods indicated:

Table 23

	As of		Change	
	June 30, 2022	December 31, 2021	\$	%
	(in thousands)			
Assets				
Cash and cash equivalents	\$ 909,430	\$ 908,785	\$ 645	— %
Investment securities, net of allowance	4,292,581	3,882,590	409,991	11 %
Farmer Mac Guaranteed Securities, net of allowance	8,139,681	8,361,798	(222,117)	(3)%
USDA Securities	2,433,105	2,440,732	(7,627)	— %
Loans, net of allowance	8,899,429	8,300,619	598,810	7 %
Loans held in trusts, net of allowance	834,584	948,059	(113,475)	(12)%
Other	407,593	302,908	104,685	35 %
Total assets	<u>\$ 25,916,403</u>	<u>\$ 25,145,491</u>	<u>\$ 770,912</u>	<u>3 %</u>
Liabilities				
Notes Payable	\$ 23,474,095	\$ 22,716,156	\$ 757,939	3 %
Debt securities of consolidated trusts held by third parties	866,107	981,379	(115,272)	(12)%
Other	363,853	243,543	120,310	49 %
Total liabilities	<u>\$ 24,704,055</u>	<u>\$ 23,941,078</u>	<u>\$ 762,977</u>	<u>3 %</u>
Total equity	<u>1,212,348</u>	<u>1,204,413</u>	<u>7,935</u>	<u>1 %</u>
Total liabilities and equity	<u>\$ 25,916,403</u>	<u>\$ 25,145,491</u>	<u>\$ 770,912</u>	<u>3 %</u>

Assets. The increase in total assets was primarily attributable to new loan volume and a larger investment portfolio.

Liabilities. The increase in total liabilities was primarily due to an increase in total notes payable to fund the acquisition of loan volume.

Equity. The increase in total equity was primarily due to an increase in retained earnings, partially offset by a decrease in accumulated other comprehensive income.

Risk Management

Credit Risk – Loans and Guarantees.

Agricultural Finance - Direct Credit Exposure

Farmer Mac's direct credit exposure to Agricultural Finance mortgage loans as of June 30, 2022 was \$10.1 billion across 48 states. Farmer Mac applies credit underwriting standards and methodologies to help assess exposures to loan purchases, which may include collateral valuation, financial metrics, and other appropriate borrower financial and credit information. For Corporate AgFinance loans, which are often larger loan exposures to agriculture production and agribusinesses that support agriculture production, food and fiber processing, and other supply chain production, and which may have risk profiles that differ from smaller agricultural mortgage loans, Farmer Mac has implemented methodologies and parameters that help assess credit risk based on the appropriate sector, borrower construct, and transaction complexity. For more information about Farmer Mac's underwriting and collateral valuation

standards for Agricultural Finance mortgage loans, see "Business—Farmer Mac's Lines of Business—Agricultural Finance—Underwriting and Collateral Standards—Farm & Ranch" and "Business—Farmer Mac's Lines of Business—Agricultural Finance—Underwriting and Collateral Standards—Corporate AgFinance" in Farmer Mac's 2021 Annual Report.

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. For Agricultural Finance mortgage loans to which Farmer Mac has direct credit exposure, Farmer Mac's 90-day delinquencies as of June 30, 2022, were \$20.6 million (0.20% of the Agricultural Finance mortgage loan portfolio to which Farmer Mac has direct credit exposure), compared to \$55.8 million (0.57% of the Agricultural Finance mortgage loan portfolio) as of March 31, 2022 and \$47.3 million (0.48% of the Agricultural Finance mortgage loan portfolio) as of December 31, 2021. Those 90-day delinquencies were comprised of 19 delinquent loans as of June 30, 2022, compared to 40 delinquent loans as of March 31, 2022 and 32 delinquent loans as of December 31, 2021. The decrease in 90-day delinquencies was primarily driven by decreased delinquencies in crops, livestock, permanent plantings, and agricultural storage and processing, partially offset by increased delinquencies in part-time farms. The top ten borrower exposures over 90 days delinquent represented over half of the 90-day delinquencies as of June 30, 2022. Farmer Mac believes that it remains adequately collateralized on its delinquent loans.

Farmer Mac's 90-day delinquency rate as of June 30, 2022 was below Farmer Mac's historical average. In the near-term, our delinquency rate may exceed our historical average due to the impact of adverse weather events and/or supply chain disruptions on the agricultural economy. Farmer Mac's average 90-day delinquency rate as a percentage of its Agricultural Finance mortgage loan 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 ethanol loan portfolio.

The following table presents historical information about Farmer Mac's 90-day delinquencies in the Agricultural Finance mortgage loan portfolio compared to the unpaid principal balance of all Agricultural Finance mortgage loans to which Farmer Mac has direct credit exposure:

Table 24

	Agricultural Finance Mortgage Loans	90-Day Delinquencies	Percentage
	<i>(dollars in thousands)</i>		
As of:			
June 30, 2022	\$ 10,128,083	\$ 20,623	0.20 %
March 31, 2022	9,879,978	55,847	0.57 %
December 31, 2021	9,811,749	47,307	0.48 %
September 30, 2021	9,445,359	54,792	0.58 %
June 30, 2021	9,056,152	63,076	0.70 %
March 31, 2021	8,629,352	72,346	0.84 %
December 31, 2020	8,581,181	46,232	0.54 %
September 30, 2020	8,249,349	88,041	1.07 %
June 30, 2020	8,017,850	68,682	0.86 %

Across all of Farmer Mac's lines of business, 90-day delinquencies represented 0.08% of total outstanding business volume as of June 30, 2022, compared to 0.20% as of December 31, 2021 and 0.28% as of June 30, 2021.

The following table presents outstanding Agricultural Finance mortgage loans and 90-day delinquencies as of June 30, 2022 by year of origination, geographic region, commodity/collateral type, original loan-to-value ratio, and range in the size of borrower exposure:

Table 25

Agricultural Finance Mortgage Loans 90-Day Delinquencies as of June 30, 2022

	Distribution of Agricultural Loans	Agricultural Loans	90-Day Delinquencies ⁽¹⁾	Percentage
	(dollars in thousands)			
By year of origination:				
2012 and prior	6 %	\$ 661,542	\$ 2,975	0.45 %
2013	3 %	288,237	116	0.04 %
2014	2 %	245,118	—	— %
2015	4 %	375,510	5,989	1.59 %
2016	6 %	564,614	1,023	0.18 %
2017	6 %	585,167	5,363	0.92 %
2018	6 %	616,016	2,409	0.39 %
2019	9 %	891,130	1,512	0.17 %
2020	21 %	2,147,189	305	0.01 %
2021	28 %	2,790,728	931	0.03 %
2022	9 %	962,832	—	0.03 %
Total	100 %	\$ 10,128,083	\$ 20,623	0.20 %
By geographic region ⁽²⁾ :				
Northwest	13 %	\$ 1,312,735	\$ 820	0.06 %
Southwest	31 %	3,172,391	6,321	0.20 %
Mid-North	27 %	2,736,714	4,677	0.17 %
Mid-South	16 %	1,631,536	5,989	0.37 %
Northeast	4 %	426,477	1,566	0.37 %
Southeast	9 %	848,230	1,250	0.15 %
Total	100 %	\$ 10,128,083	\$ 20,623	0.20 %
By commodity/collateral type:				
Crops	50 %	\$ 5,054,459	\$ 9,236	0.18 %
Permanent plantings	22 %	2,262,699	6,630	0.29 %
Livestock	19 %	1,874,589	3,177	0.17 %
Part-time farm	5 %	465,657	1,580	0.34 %
Ag. Storage and Processing	4 %	453,297	—	— %
Other	—	17,382	—	— %
Total	100 %	\$ 10,128,083	\$ 20,623	0.20 %
By original loan-to-value ratio:				
0.00% to 40.00%	18 %	\$ 1,794,439	\$ 2,512	0.14 %
40.01% to 50.00%	23 %	2,335,626	5,269	0.23 %
50.01% to 60.00%	36 %	3,647,002	7,683	0.21 %
60.01% to 70.00%	20 %	2,067,478	4,550	0.22 %
70.01% to 80.00% ⁽³⁾	3 %	255,234	609	0.24 %
80.01% to 90.00% ⁽³⁾	— %	28,304	—	— %
Total	100 %	\$ 10,128,083	\$ 20,623	0.20 %
By size of borrower exposure ⁽⁴⁾ :				
Less than \$1,000,000	26 %	\$ 2,593,555	\$ 3,825	0.15 %
\$1,000,000 to \$4,999,999	37 %	3,743,028	10,809	0.29 %
\$5,000,000 to \$9,999,999	16 %	1,636,095	—	— %
\$10,000,000 to \$24,999,999	12 %	1,242,325	5,989	0.48 %
\$25,000,000 and greater	9 %	913,080	—	— %
Total	100 %	\$ 10,128,083	\$ 20,623	0.20 %

⁽¹⁾ Includes loans held and loans underlying off-balance sheet Agricultural Finance 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 Agricultural Finance mortgage loans is the level of internally-rated "substandard" assets, both in dollars and as a percentage of the outstanding 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, 2022, Farmer Mac's Agricultural Finance mortgage loans (to which it has direct credit exposure) comprising substandard assets were \$213.7 million (2.1% of the portfolio), compared to \$215.8 million (2.2% of the portfolio) as of March 31, 2022 and \$246.7 million (2.5% of the portfolio) as of December 31, 2021. Those substandard assets comprised 249 loans as of June 30, 2022, 254 loans as of March 31, 2022, and 274 loans as of December 31, 2021.

The decrease of \$2.1 million in substandard assets during second quarter 2022 was driven by credit upgrades in our on-balance sheet portfolio, partially offset by credit downgrades in our off-balance sheet portfolio. Substandard assets decreased as a percentage of the total on-balance sheet portfolio due to a combination of volume growth and credit upgrades. Substandard assets increased as a percentage of the total off-balance sheet portfolio due to a combination of credit downgrades and decreased volume.

The percentage of substandard assets within the portfolio as of June 30, 2022 was below the historical average. Farmer Mac's average substandard assets as a percentage of its Agricultural Finance mortgage loans over the last 15 years is approximately 4%. The highest substandard asset rate observed during the last 15 years occurred in 2010 at approximately 8%, which coincided with an increase in substandard loans within Farmer Mac's ethanol portfolio. 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 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 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, 2022 and December 31, 2021, the average unpaid principal balances for Agricultural Finance mortgage loans outstanding and to which Farmer Mac has direct credit exposure was \$799,000 and \$790,000, 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 combined basis rather than on a loan-by-loan basis. The weighted-average original loan-to-value ratio for Agricultural Finance mortgage loans purchased during second quarter 2022 was 43%, compared to 48% for loans purchased during second quarter 2021. The weighted-average original loan-to-value ratio for Agricultural Finance mortgage loans and loans underlying off-balance sheet Agricultural Finance Guaranteed Securities and LTSPCs was 51% and 52% as of June 30, 2022 and December 31, 2021, respectively. The weighted-average original loan-to-value ratio for all 90-day delinquencies was 53% and 51% as of June 30, 2022 and December 31, 2021, respectively.

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 amortization) for Agricultural Finance mortgage

loans and loans underlying off-balance sheet Agricultural Finance Guaranteed Securities and LTSPCs was 46% and 47% as of June 30, 2022 and December 31, 2021, respectively.

The following table presents the current loan-to-value ratios for the Agricultural Finance mortgage loans to which Farmer Mac has direct credit exposure, as disaggregated by internally assigned risk ratings:

Table 26

Agricultural Finance Mortgage Loans current loan-to-value ratio by internally assigned risk rating as of June 30, 2022

	Acceptable	Special Mention	Substandard	Total
	<i>(in thousands)</i>			
Current loan-to-value ratio ⁽¹⁾ :				
0.00% to 40.00%	\$ 2,873,999	\$ 44,583	\$ 67,019	\$ 2,985,601
40.01% to 50.00%	2,487,094	94,280	59,486	2,640,860
50.01% to 60.00%	2,683,031	119,047	43,186	2,845,264
60.01% to 70.00%	1,356,243	59,000	29,132	1,444,375
70.01% to 80.00%	165,672	17,243	14,591	197,506
80.01% and greater	13,066	1,153	258	14,477
Total	<u>\$ 9,579,105</u>	<u>\$ 335,306</u>	<u>\$ 213,672</u>	<u>\$ 10,128,083</u>

⁽¹⁾ The current loan-to-value ratio is based on original appraised value (or most recently obtained valuation, if available) 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 Agricultural Finance mortgage loans as of June 30, 2022 by year of origination, geographic region, and commodity/collateral type. The purpose of this information is to present information about realized losses relative to original Farm & Ranch purchases, guarantees, and commitments.

Table 27

Agricultural Finance Mortgage Loans Credit Losses Relative to Cumulative
Original Loans, Guarantees, and LTSPCs as of June 30, 2022

	Cumulative Original Loans, Guarantees and LTSPCs	Cumulative Net Credit Losses/ (Recoveries)	Cumulative Loss Rate
<i>(dollars in thousands)</i>			
By year of origination:			
2012 and prior	\$ 17,249,759	\$ 33,785	0.20 %
2013	1,470,293	—	— %
2014	1,073,151	—	— %
2015	1,227,120	(516)	(0.04)%
2016	1,549,972	84	0.01 %
2017	1,646,522	4,311	0.26 %
2018	1,336,483	—	— %
2019	1,556,913	—	— %
2020	2,843,026	—	— %
2021	3,173,793	—	— %
2022	1,001,172	—	— %
Total	<u>\$ 34,128,204</u>	<u>\$ 37,664</u>	0.11 %
By geographic region ⁽¹⁾ :			
Northwest	\$ 4,449,511	\$ 11,275	0.25 %
Southwest	11,571,679	8,542	0.07 %
Mid-North	8,605,186	17,165	0.20 %
Mid-South	4,709,056	(613)	(0.01)%
Northeast	1,806,310	323	0.02 %
Southeast	2,986,462	972	0.03 %
Total	<u>\$ 34,128,204</u>	<u>\$ 37,664</u>	0.11 %
By commodity/collateral type:			
Crops	\$ 15,812,938	\$ 2,971	0.02 %
Permanent plantings	7,422,289	9,783	0.13 %
Livestock	7,534,936	3,836	0.05 %
Part-time farm	1,858,482	1,090	0.06 %
Ag. Storage and Processing	1,331,754	19,984	1.50 %
Other	167,805	—	— %
Total	<u>\$ 34,128,204</u>	<u>\$ 37,664</u>	0.11 %

⁽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 Agricultural Finance mortgage loans by commodity type within geographic region and cumulative credit losses by origination year and commodity type:

Table 28

As of June 30, 2022							
Agricultural Finance Mortgage Loans 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	\$ 655,549	\$ 215,231	\$ 308,247	\$100,019	\$ 33,666	\$ 23	\$1,312,735
	6.5 %	2.1 %	3.0 %	1.0 %	0.4 %	— %	13.0 %
Southwest	678,271	1,688,061	555,443	98,101	137,155	15,360	3,172,391
	6.6 %	16.7 %	5.4 %	1.0 %	1.4 %	0.2 %	31.3 %
Mid-North	2,326,315	10,466	210,797	91,318	96,039	1,779	2,736,714
	23.0 %	0.1 %	2.1 %	0.9 %	0.9 %	— %	27.0 %
Mid-South	912,854	71,481	512,757	62,256	72,171	17	1,631,536
	9.0 %	0.7 %	5.1 %	0.6 %	0.7 %	— %	16.1 %
Northeast	190,151	43,185	77,831	51,627	63,683	—	426,477
	1.9 %	0.4 %	0.8 %	0.5 %	0.5 %	— %	4.1 %
Southeast	291,319	234,275	209,514	62,336	50,583	203	848,230
	2.9 %	2.3 %	2.2 %	0.6 %	0.5 %	— %	8.5 %
Total	\$5,054,459	\$2,262,699	\$1,874,589	\$465,657	\$453,297	\$17,382	\$10,128,083
	49.9 %	22.3 %	18.6 %	4.6 %	4.4 %	0.2 %	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 29

	As of June 30, 2022						
	Agricultural Loans 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:							
2012 and prior	\$ 3,427	\$ 9,783	\$ 3,836	\$ 1,066	\$ 15,673	\$ 33,785	
2013	—	—	—	—	—	—	
2014	—	—	—	—	—	—	
2015	(540)	—	—	24	—	(516)	
2016	84	—	—	—	—	84	
2017	—	—	—	—	4,311	4,311	
2018	—	—	—	—	—	—	
2019	—	—	—	—	—	—	
2020	—	—	—	—	—	—	
2021	—	—	—	—	—	—	
2022	—	—	—	—	—	—	
Total	\$ 2,971	\$ 9,783	\$ 3,836	\$ 1,090	\$ 19,984	\$ 37,664	

For more information about the credit quality of Farmer Mac's Agricultural Finance mortgage loans and the associated allowance for losses please refer to Note 5 and Note 6 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."

Rural Infrastructure Finance - Direct Credit Exposure

Farmer Mac's direct credit exposure to Rural Infrastructure Finance loans held and loans underlying LTSPCs as of June 30, 2022 was \$3.3 billion across 45 states. For more information about Farmer Mac's underwriting and collateral valuation standards for Rural Infrastructure Finance loans, see "Business—Farmer Mac's Lines of Business—Rural Infrastructure Finance—Underwriting and Collateral Standards" in Farmer Mac's 2021 Annual Report. As of June 30, 2022, there were no delinquencies in Farmer Mac's portfolio of Rural Infrastructure Finance loans.

Farmer Mac evaluates credit risk for these assets by reviewing a variety of borrower credit risk characteristics. These characteristics can include (but is not limited to) financial metrics, internal risk ratings, ratings assigned by ratings agencies, types of customers served, sources of power supply, and the regulatory environment.

The following table presents Farmer Mac's portfolio of generation and transmission ("G&T") and distribution cooperative borrowers, as well as renewable energy loans, disaggregated by internally assigned risk ratings.

Table 30

	Rural Infrastructure Finance portfolio by internally assigned risk rating as of June 30, 2022				
	Acceptable	Special Mention	Substandard	Total	
	(in thousands)				
Distribution Cooperative	\$ 2,287,110	\$ —	\$ —	\$ 2,287,110	
G&T Cooperative	699,868	—	—	699,868	
Renewable Energy	148,018	—	—	148,018	
Telecommunications	195,926	—	—	195,926	
Rural Utilities Total	\$ 3,330,922	\$ —	\$ —	\$ 3,330,922	

For more information about the credit quality of Farmer Mac's Rural Infrastructure Finance portfolio and the associated allowance for losses please refer to Notes 5 and 6 of the consolidated financial statements.

Other Considerations Regarding Credit Risk Related to Loans and Guarantees

The credit exposure on USDA Securities, including those underlying Farmer Mac Guaranteed USDA Securities, is guaranteed by the full faith and credit of the United States. Therefore, Farmer Mac believes that we have little or no credit risk exposure to the USDA Securities in the Agricultural Finance line of business because of the USDA guarantee. As of June 30, 2022, Farmer Mac had not experienced any credit losses on any USDA Securities or Farmer Mac Guaranteed USDA Securities and does not expect to incur any such losses in the future. Because we do not expect credit losses on this portfolio, Farmer Mac does not provide an allowance for losses on its portfolio of USDA Securities.

Farmer Mac requires many lenders to make representations and warranties about the conformity of Agricultural Finance mortgage loans and Rural Infrastructure Finance 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, 2022, there have been no breaches of representations and warranties by sellers that resulted in Farmer Mac requiring a seller to cure, replace, or repurchase a loan. In addition to relying on the representations and warranties of sellers, Farmer Mac also underwrites the Agricultural Finance mortgage loans (other than rural housing and part-time farm mortgage loans) and Rural Infrastructure Finance 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. For more information about Farmer Mac's loan eligibility requirements and underwriting standards, see "Business—Farmer Mac's Lines of Business—Agricultural Finance—Loan Eligibility," "Business—Farmer Mac's Lines of Business—Agricultural Finance—Underwriting and Collateral Standards—Farm & Ranch," "Business—Farmer Mac's Lines of Business—Agricultural Finance—Underwriting and Collateral Standards—Corporate AgFinance," and "Business—Farmer Mac's Lines of Business—Rural Infrastructure Finance—Underwriting and Collateral Standards" in Farmer Mac's 2021 Annual Report.

Under contracts with Farmer Mac and in consideration for servicing fees, Farmer Mac-approved servicers service loans in accordance with Farmer Mac's requirements. Servicers are responsible to Farmer Mac for serious errors in the servicing of those loans. If a 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 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 servicer. Farmer Mac also can proceed against the servicer in arbitration or exercise any remedies available to it under law. During the previous three years ended June 30, 2022, Farmer Mac had not exercised any remedies or taken any formal action against any servicers. For more information about Farmer Mac's servicing requirements, see "Business—Farmer Mac's Lines of Business—Agricultural Finance—Loan Servicing" and "Business—Farmer Mac's Lines of Business—Rural Infrastructure Finance—Lenders and Loan Servicing" in Farmer Mac's 2021 Annual Report.

Credit Risk – Counterparty Risk. Farmer Mac is exposed to credit risk arising from its business relationships with other institutions, which include:

- 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 typically required to remove from the pool of pledged collateral loans that become and remain (within specified parameters) delinquent in the payment of principal or interest and to substitute eligible loans that are current in payment or pay down the AgVantage securities to maintain the minimum required collateralization level.

In the event of a default on an AgVantage security, Farmer Mac would have recourse to the pledged collateral and have rights to the ongoing borrower payments of principal and interest. As a result, Farmer Mac has indirect credit exposure to the Agricultural Finance mortgage loans and Rural Utilities loans that secure AgVantage securities. For AgVantage counterparties that are institutional real estate investors or financial funds and other similar entities, Farmer Mac also typically requires that the counterparty (1) maintain a higher collateralization level, through either a higher overcollateralization percentage or lower loan-to-value ratio thresholds and (2) comply with specified financial covenants for the life of the related AgVantage security to avoid default. As of June 30, 2022, Farmer Mac had not experienced any credit losses on any AgVantage securities. For a more detailed description of AgVantage securities, see "Business—Farmer Mac's Lines of Business—Agricultural Finance—Other Products – Agricultural Finance—AgVantage Securities" and "Business—Farmer Mac's Lines of Business—Rural Infrastructure Finance—Other Products – Rural Infrastructure Finance—AgVantage Securities" in Farmer Mac's 2021 Annual Report.

The unpaid principal balance of outstanding on-balance sheet AgVantage securities secured by loans eligible for the Agricultural Finance line of business totaled \$5.3 billion as of June 30, 2022 and \$5.1 billion as of December 31, 2021. The unpaid principal balance of on-balance sheet AgVantage securities secured by loans eligible for the Rural Infrastructure Finance line of business totaled \$3.0 billion as of both June 30, 2022 and December 31, 2021. The unpaid principal balance of outstanding off-balance sheet AgVantage securities totaled \$2.8 million as of both June 30, 2022 and December 31, 2021.

The following table provides information about the issuers of AgVantage securities and the required collateralization levels for those transactions as of June 30, 2022 and December 31, 2021:

Table 31

Counterparty	As of June 30, 2022		As of December 31, 2021	
	Balance	Required Collateralization	Balance	Required Collateralization
<i>(dollars in thousands)</i>				
AgVantage:				
CFC	\$ 2,989,159	100%	\$ 3,036,017	100%
MetLife	2,050,000	103%	2,050,000	103%
Rabo AgriFinance	2,445,000	110%	2,550,000	110%
Other ⁽¹⁾	852,968	106% to 125%	492,464	106% to 125%
Total outstanding	<u>\$ 8,337,127</u>		<u>\$ 8,128,481</u>	

⁽¹⁾ Consists of AgVantage securities issued by 12 and 13 different issuers as of June 30, 2022 and December 31, 2021, respectively.

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 credit rating agency reports. For more information about Farmer Mac's lender eligibility requirements, see "Business—Farmer Mac's Lines of Business—Agricultural Finance—Lenders" and "Business—Farmer Mac's Lines of Business—Rural Infrastructure Finance—Lenders and Loan Servicing" in Farmer Mac's 2021 Annual Report.

Farmer Mac manages institutional credit risk related to its interest rate swap counterparties through collateralization provisions contained in each of its swap agreements that vary based on the market value of its swap 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. Farmer Mac transacts interest rate swaps with multiple counterparties to reduce counterparty credit exposure concentration. Farmer Mac's usage of cleared derivatives has increased over time as has its exposure to clearinghouses. The usage of cleared swap transactions reduces Farmer Mac's exposure to individual counterparties with the central clearinghouse acting to settle the change in value of contracts on a daily basis. 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, 2022, Farmer Mac had \$0.9 billion of cash and cash equivalents and \$4.3 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 FCA regulations found at 12 C.F.R. §§ 652.1-652.45 (the "Liquidity and Investment Regulations"). 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.

The Liquidity and Investment Regulations and Farmer Mac's 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.

The Liquidity and Investment Regulations and Farmer Mac's internal policies also establish concentration limits, which are intended to limit exposure to any single entity, issuer, or obligor. The 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 (\$127.7 million as of June 30, 2022). However, Farmer Mac's current policy limits this total credit exposure to 5% of its regulatory capital (\$63.8 million as of June 30, 2022). 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 interest-earning assets on its balance sheet because of timing differences in the cash flows due to maturity, paydown, or repricing of the assets and debt together with financial derivatives. Cash flow mismatches due to changing interest rates can reduce the earnings of Farmer Mac if assets prepay 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. Alternatively, Farmer Mac could realize a decline in income if assets repay more slowly than originally forecasted and the associated maturing debt must be replaced by debt issuances at higher interest rates.

Interest Rate Risk Management

The goal of interest rate risk management at Farmer Mac is to manage the balance sheet in a manner that generates stable earnings and value across a variety of interest rate environments. Recognizing that interest rate sensitivities may change with the passage of time and as interest rates change, Farmer Mac regularly assesses this exposure and, if necessary, adjusts its portfolio of interest-earning assets, debt, and financial derivatives.

Farmer Mac's objective is to maintain its exposure to interest rate risk within appropriate limits, as approved by Farmer Mac's board of directors. Farmer Mac's management-level Asset and Liability Committee ("ALCO") provides oversight, establishes guidelines, and approves strategies to maintain interest rate risk within the board-established limits.

Farmer Mac's primary strategy for managing interest rate risk is to fund asset purchases with debt that together with financial derivatives have similar duration and convexity characteristics and help mitigate impacts from interest rate changes across the yield curve. As part of this debt issuance strategy, Farmer Mac seeks to issue debt securities across a variety of maturities that together with financial derivatives closely align the forecasted debt and financial derivative cash flows with forecasted asset cash flows.

Farmer Mac issues discount notes and both callable and non-callable medium-term notes across a spectrum of maturities to execute its debt issuance strategy. Callable debt is issued to mitigate prepayment risk associated with certain interest-earning assets held on balance sheet. In general, as interest rates decline, prepayments typically increase, and Farmer Mac is able to economically extinguish certain callable debt issuances. In addition, Farmer Mac enters into financial derivatives, primarily interest rate swaps, to better match the durations of Farmer Mac's assets and liabilities, thereby reducing overall sensitivity to changing interest rates.

Taking into consideration the prepayment provisions and the default probabilities associated with its portfolio of interest-earning assets, Farmer Mac incorporates behavioral models when projecting and valuing cash flows associated with these assets. In recognition that 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.

Changes in interest rates may affect the timing of asset prepayments which may, in turn, impact durations and values of the assets. Declining interest rates generally result in increased prepayments, which shortens the duration of these assets, while rising interest rates generally result in lower prepayments, thereby extending the duration of the assets.

Farmer Mac is subject to interest rate risk on loans and securities it has committed to acquire but 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 assets, 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 these loans. Farmer Mac manages the interest rate risk exposure related to these loans by entering into exchange-traded futures contracts involving U.S. Treasury securities and other financial derivatives. Similarly, when Farmer Mac commits to sell certain assets, the associated interest rate exposure is primarily managed with exchange-traded futures contracts involving U.S. Treasury securities and other financial derivatives.

Farmer Mac's \$0.9 billion of cash and cash equivalents held as of June 30, 2022 mature within three months. As of June 30, 2022, \$3.2 billion of the \$4.3 billion of investment securities (74%) were floating rate securities with rates that adjust within one year or fixed rate securities with original maturities between three months and one year. Farmer Mac's floating rate investment securities are funded with floating rate debt. The fixed rate investment securities are generally funded in a manner consistent with Farmer Mac's overall funding strategy that approximates a duration and convexity match.

Interest Rate Risk Metrics

Farmer Mac regularly evaluates and conducts interest rate shock simulations on its portfolio of financial assets, debt, and financial derivatives and examines a variety of metrics to quantify and manage its exposure to interest rate risk. These metrics include sensitivity to interest rate movements on the market value of equity ("MVE") and forecasted net effective spread ("NES") as well as a duration gap analysis.

MVE represents management's estimate of the present value of all future cash flows from its current portfolio of 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. The MVE sensitivity analysis measures the degree to which the market values of Farmer Mac's assets, liabilities, and financial derivatives are estimated to change for a given change in interest rates.

Farmer Mac's NES simulation represents the difference between projected income over the next twelve months from the current portfolio of interest-earning assets and interest expense produced by the related funding, including associated financial derivatives. Farmer Mac's NES simulation may be impacted by changes in market interest rates resulting from timing differences between maturities and re-pricing characteristics of funded assets and debt together with the associated financial derivatives. The direction and magnitude of any such effect depends on the direction and magnitude of the change in interest rates across the yield curve as well as the composition of Farmer Mac's portfolio. The NES simulation 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, the NES simulation sensitivity statistics provide a short-term view of Farmer Mac's NES income sensitivity to interest rate shocks.

Duration is a measure of a financial instrument's fair value sensitivity to small changes in interest rates. Duration gap is calculated using the net estimated durations of Farmer Mac's interest-earning assets, debt, and financial derivatives. Duration gap quantifies the extent to which estimated fair value sensitivities are matched for interest-earning assets, debt and financial derivatives. 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 interest-earning assets is greater than the duration of its debt and financial derivatives. A positive duration gap indicates that with small changes in interest rate movements the fair value change of Farmer Mac's interest-earning assets is more sensitive than the fair value change of its debt and financial derivatives. Conversely, a negative duration gap indicates that with small changes in interest rate movements the fair value change of Farmer Mac's interest-earning assets are less sensitive than the fair value change of its debt and financial derivatives. A duration gap of zero indicates that with small changes in interest rate movements the fair value change of Farmer Mac's interest-earning assets is effectively offset by the fair value change of its debt and financial derivatives.

Each of the interest rate risk metrics is quantified using asset/liability models and derived based on management's best estimates of factors such as implied forward interest rates across the yield curve, interest rate volatility, and timing of asset prepayments and callable debt redemptions. Accordingly, these metrics are estimates rather than precise measurements. Actual results may differ to the extent there are material changes to Farmer Mac's financial asset portfolio or changes in funding or hedging 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, 2022 and December 31, 2021 to an immediate and instantaneous uniform or "parallel" shift in the yield curve:

Table 32

Interest Rate Scenario ⁽¹⁾	Percentage Change in MVE from Base Case	
	As of June 30, 2022	As of December 31, 2021 ⁽¹⁾
+100 basis points	(1.9)%	3.7 %
-100 basis points	(0.7)%	(0.1)%
Interest Rate Scenario	Percentage Change in NES from Base Case	
	As of June 30, 2022	As of December 31, 2021 ⁽¹⁾
+100 basis points	1.7 %	6.6 %
-100 basis points	(1.7)%	(0.1)%

⁽¹⁾ The down 100 basis points shock scenario was replaced in 2020 with a proportional shock relative to 50% of the 3-month Treasury bill rate, with the approval of the Financial Risk Committee of the Board of Directors. The replacement down shock scenario was negative 2 basis points as of December 31, 2021.

As of June 30, 2022, Farmer Mac's duration gap was positive 2.4 months, compared to negative 1.5 months as of December 31, 2021. Farmer Mac updated its duration gap measure to interest-earning assets, debt, and financial derivatives as of December 31, 2021. Interest rates within the yield curve flattened during the first half of 2022 with the 2-year and 10-year U.S. Treasury Note yield-to-maturity increasing by approximately 222 basis points and 150 basis points, respectively, versus year-end 2021. This rate movement contributed to extending the duration of Farmer Mac's funded assets compared to its debt and financial derivatives, thereby lengthening 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 typically enters into the following types of financial derivative transactions principally to protect against risk from the effects of market price or interest rate movements on the value of interest-earning assets, future cash flows, and debt issuance, and 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;
- "basis swaps," in which Farmer Mac pays floating rates of interest based on one index to, and receives floating rates of interest based on a different index from, counterparties; and
- exchange-traded futures contracts involving U.S. Treasury securities.

As of June 30, 2022, Farmer Mac had \$20.3 billion combined notional amount of interest rate swaps, with terms ranging from less than one year to just over thirty years, of which \$8.1 billion were pay-fixed interest rate swaps, \$10.4 billion were receive-fixed interest rate swaps, and \$1.8 billion were basis swaps.

Farmer Mac enters into interest rate swaps to more closely match the cash flow and duration characteristics of its interest-earning assets with those of its debt. For example, Farmer Mac transacts pay-fixed interest rate swaps and issues floating rate debt to effectively create fixed rate funding that approximately matches the duration of the corresponding fixed rate assets being funded. Farmer Mac

evaluates the overall cost of using interest rate swaps in conjunction with debt issuance as a funding alternative to duration-matched debt and enters into interest rate swaps to manage interest rate risks across the balance sheet.

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 or Secured Overnight Financing Rate ("SOFR")). Also, 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 undesignated 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 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 accounting 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 floating 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 interest rate swap transactions are conducted under standard collateralized agreements that limit Farmer Mac's potential credit exposure to any counterparty. As of both June 30, 2022 and December 31, 2021, Farmer Mac had no uncollateralized net exposures based on the mark-to-market value of the portfolio of interest rate swaps

Re-funding and repricing risk

Farmer Mac is subject to re-funding and repricing risk on any floating rate assets that are not funded to contractual maturity. Re-funding and repricing risk arises from potential changes in funding costs resulting from a funding strategy whereby Farmer Mac issues floating rate debt across a variety of maturities to fund floating rate or synthetically floating rate assets that on average may have longer maturities. Changes in Farmer Mac's funding costs relative to the benchmark market index rate to which the assets are indexed can cause changes to net interest income when debt matures and is reissued at then current interest rates to continue funding those assets.

Farmer Mac is subject to re-funding and repricing risk on a portion of its fixed rate assets as a result of its use of pay-fixed receive-floating interest rate swaps that effectively convert the required funding needed from fixed rate to floating rate. These fixed rate assets are then effectively floating rate assets that require floating rate funding.

Farmer Mac can meet floating rate funding needs in several ways, including:

- issuing short-term fixed rate discount notes with maturities that match the reset period of the assets;
- issuing floating rate medium-term notes with maturities and reset frequencies that match the assets being funded;

- issuing non-maturity matched, floating rate medium-term notes with reset frequencies that match the assets being funded; or
- issuing non-maturity matched, fixed rate discount notes or medium-term notes swapped to floating rate to match the interest rate reset dates of the assets.

To meet certain floating rate funding needs, Farmer Mac frequently issues shorter-term floating-rate medium-term notes or fixed rate medium-term notes paired with a received-fixed interest rate swap because these funding alternatives 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 in the context of Farmer Mac's overall debt issuance and liquidity management strategies.

However, if the funding cost of Farmer Mac's discount notes or medium-term notes increased relative to the benchmark market index of the associated assets during the time between when these floating rate assets were first funded and when Farmer Mac refinanced the associated debt, Farmer Mac would be exposed to a commensurate reduction of net effective spread. Conversely, if the funding cost on Farmer Mac's discount notes or medium-term notes decreased relative to the benchmark market index during that time, Farmer Mac would benefit from a commensurate increase to net effective spread.

Farmer Mac's debt issuance strategy targets balancing liquidity risk and re-funding and repricing risk while maintaining an appropriate liability management profile that is consistent with Farmer Mac's risk tolerance. Farmer Mac regularly adjusts its funding strategies to mitigate the effects of interest rate variability and seeks to maintain an effective mixture of funding structures in the context of its overall liability and liquidity management strategies.

As of June 30, 2022, Farmer Mac held \$5.7 billion of floating rate assets in its lines of business and its investment portfolio that reset based on floating rate market indices, such as LIBOR or SOFR. As of the same date, Farmer Mac also had \$8.1 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest, primarily LIBOR or SOFR.

Discontinuation of LIBOR

As described in "Risk Factors—Market Risk" in Part I, Item 1A of the 2021 Annual Report, 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. Farmer Mac is evaluating the potential effect on our business of the replacement of the LIBOR benchmark interest rate, including the possibility of replacement benchmark interest rates.

As of June 30, 2022, Farmer Mac held \$3.1 billion of floating rate assets in its lines of business and its investment portfolio, had issued \$0.3 billion of floating rate debt, and had entered into \$11.9 billion notional amount of interest rate swaps, each of which reset based on LIBOR. In addition, our Non-Cumulative Series C Preferred Stock currently pays a fixed rate of interest until July 17, 2024. It becomes redeemable at our option on July 18, 2024 and thereafter pays interest at a floating rate equal to three-month LIBOR plus 3.260%.

The market transition away from LIBOR and towards alternative benchmark interest rate indices that may be developed is expected to be complicated and may require the development of term and credit adjustments to accommodate for differences between the benchmark interest rate indices. The transition

may also result in different financial performance for existing transactions, require different hedging strategies, or require renegotiation of existing transactions. As of June 30, 2022, we had \$1.8 billion outstanding in medium-term notes based on SOFR, a potential alternative benchmark interest rate index.

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 and investment securities. Farmer Mac regularly accesses the debt capital markets for funding, and Farmer Mac has maintained steady access to the debt capital markets throughout second quarter 2022. 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 debt capital markets. As of June 30, 2022, Farmer Mac had outstanding discount notes of \$1.5 billion, medium-term notes that mature within one year of \$5.6 billion, and medium-term notes that mature after one year of \$16.8 billion.

Assuming continued access to the debt 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 has a contingency funding plan to manage unanticipated disruptions in its access to the debt capital markets. Farmer Mac must maintain a minimum of 90 days of liquidity under the Liquidity and Investment Regulations prescribed for Farmer Mac by FCA. In accordance with the methodology for calculating available days of liquidity under those regulations, Farmer Mac maintained a monthly average of 387 days of liquidity during second quarter 2022 and had 364 days of liquidity as of June 30, 2022.

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. Farmer Mac's current policies authorize liquidity investments in:

- obligations of or fully guaranteed by the United States or a U.S. government agency;
- obligations of or fully guaranteed by GSEs;
- municipal securities;
- international and multilateral development bank obligations;
- money market instruments;
- diversified investment funds;
- asset-backed securities;
- corporate debt securities; and
- mortgage-backed securities.

The following table presents these assets as of June 30, 2022 and December 31, 2021:

Table 33

	As of June 30, 2022	As of December 31, 2021
	<i>(in thousands)</i>	
Cash and cash equivalents	\$ 909,430	\$ 908,785
Investment securities:		
Guaranteed by U.S. Government and its agencies	1,526,785	1,579,452
Guaranteed by GSEs	2,745,198	2,282,655
Asset-backed securities	19,061	19,254
Total	<u>\$ 5,200,474</u>	<u>\$ 4,790,146</u>

The objective of the investment portfolio as of June 30, 2022 and December 31, 2021 was to provide a level of liquidity that mitigates enterprise risk, provides a reliable source of short-term and long-term liquidity, to prepare for the possibility of future volatility in the debt capital markets, and to support program asset growth.

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, 2022, Farmer Mac was in compliance with its statutory capital requirements and was classified as within "level 1" (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 both June 30, 2022 and December 31, 2021, Farmer Mac's Tier 1 capital ratio was 14.7%, respectively. As of June 30, 2022, Farmer Mac was in compliance with its capital adequacy policy. Farmer Mac does not expect its compliance on an ongoing basis with FCA's rule on capital planning, including Farmer Mac's policy on Tier 1 capital, to materially affect Farmer Mac's operations or financial condition.

For more information about the capital requirements applicable to Farmer Mac, its capital adequacy policy, and FCA's rule on capital planning, see "Business—Government Regulation of Farmer Mac—Capital Standards" in Farmer Mac's 2021 Annual Report. See Note 8 to the consolidated financial statements for more information about Farmer Mac's capital position.

Other Matters

None.

Supplemental Information

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

Table 34

New Business Volume										
	Agricultural Finance			Rural Infrastructure Finance		Total				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy						
	(in thousands)									
For the quarter ended:										
June 30, 2022	\$	1,418,397	\$	107,916	\$	326,899	\$	35,307	\$	1,888,519
March 31, 2022		2,452,539		103,353		377,965		41,636		2,975,493
December 31, 2021		2,075,540		411,838		631,338		12,594		3,131,310
September 30, 2021		1,791,662		122,043		609,745		4,152		2,527,602
June 30, 2021		925,950		159,958		410,666		3,441		1,500,015
March 31, 2021		1,087,897		186,393		171,546		23,484		1,469,320
December 31, 2020		907,316		242,394		145,416		44,313		1,339,439
September 30, 2020		1,059,891		212,829		52,300		10,000		1,335,020
June 30, 2020		1,069,693		279,021		358,866		—		1,707,580
For the year ended:										
December 31, 2021	\$	5,881,049	\$	880,232	\$	1,823,295	\$	43,671	\$	8,628,247
December 31, 2020		3,805,600		899,372		949,250		64,313		5,718,535

Table 35

Repayments of Assets										
	Agricultural Finance		Rural Infrastructure Finance		Total					
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy						
	(in thousands)									
For the quarter ended:										
Scheduled	\$	1,114,779	\$	42,162	\$	159,491	\$	7,898	\$	1,324,330
Unscheduled		286,303		30,203		1,791		—		318,297
June 30, 2022	\$	1,401,082	\$	72,365	\$	161,282	\$	7,898	\$	1,642,627
Scheduled	\$	1,535,369	\$	39,480	\$	266,349	\$	7,790	\$	1,848,988
Unscheduled		434,794		60,947		397		—		496,138
March 31, 2022	\$	1,970,163	\$	100,427	\$	266,746	\$	7,790	\$	2,345,126
Scheduled	\$	928,663	\$	205,778	\$	816,802	\$	18,526	\$	1,969,769
Unscheduled		318,024		48,042		—		—		366,066
December 31, 2021	\$	1,246,687	\$	253,820	\$	816,802	\$	18,526	\$	2,335,835
Scheduled	\$	725,713	\$	406,285	\$	95,443	\$	4,043	\$	1,231,484
Unscheduled		374,287		—		201		—		374,488
September 30, 2021	\$	1,100,000	\$	406,285	\$	95,644	\$	4,043	\$	1,605,972
Scheduled	\$	380,684	\$	139,774	\$	225,257	\$	4,704	\$	750,419
Unscheduled		409,393		3,921		1,652		—		414,966
June 30, 2021	\$	790,077	\$	143,695	\$	226,909	\$	4,704	\$	1,165,385
Scheduled	\$	721,090	\$	120,621	\$	100,482	\$	2,671	\$	944,864
Unscheduled		501,651		82,090		2,279		—		586,020
March 31, 2021	\$	1,222,741	\$	202,711	\$	102,761	\$	2,671	\$	1,530,884
Scheduled	\$	365,732	\$	197,108	\$	405,597	\$	561	\$	968,998
Unscheduled		400,809		27,850		1,610		—		430,269
December 31, 2020	\$	766,541	\$	224,958	\$	407,207	\$	561	\$	1,399,267
Scheduled	\$	569,820	\$	74,038	\$	211,152	\$	279	\$	855,289
Unscheduled		531,062		1,489		—		—		532,551
September 30, 2020	\$	1,100,882	\$	75,527	\$	211,152	\$	279	\$	1,387,840
Scheduled	\$	523,721	\$	109,543	\$	67,708	\$	240	\$	701,212
Unscheduled		448,900		50,737		3,935		—		503,572
June 30, 2020	\$	972,621	\$	160,280	\$	71,643	\$	240	\$	1,204,784
For the year ended:										
Scheduled	\$	2,756,150	\$	872,458	\$	1,237,984	\$	29,944	\$	4,896,536
Unscheduled		1,603,355		134,053		4,132		—		1,741,540
December 31, 2021	\$	4,359,505	\$	1,006,511	\$	1,242,116	\$	29,944	\$	6,638,076
Scheduled	\$	1,779,761	\$	475,464	\$	849,924	\$	1,080	\$	3,106,229
Unscheduled		1,706,849		88,394		5,545		—		1,800,788
December 31, 2020	\$	3,486,610	\$	563,858	\$	855,469	\$	1,080	\$	4,907,017

Table 36

Outstanding Business Volume										
	Agricultural Finance			Rural Infrastructure Finance		Total				
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy						
	(in thousands)									
As of:										
June 30, 2022	\$	16,591,999	\$	1,567,311	\$	6,172,063	\$	148,018	\$	24,479,391
March 31, 2022		16,575,595		1,540,760		6,006,446		120,609		24,243,410
December 31, 2021		16,094,639		1,537,834		5,895,227		86,763		23,614,463
September 30, 2021		15,565,589		1,379,816		6,080,691		92,695		23,118,791
June 30, 2021		14,873,926		1,664,059		5,566,591		92,585		22,197,161
March 31, 2021		14,738,052		1,647,796		5,382,835		93,848		21,862,531
December 31, 2020		14,872,894		1,664,115		5,314,051		73,035		21,924,095
September 30, 2020		14,737,485		1,646,679		5,575,841		29,283		21,989,288
June 30, 2020		14,778,474		1,509,378		5,734,694		19,562		22,042,108

Table 37

On-Balance Sheet Outstanding Business Volume					
	Fixed Rate		5- to 10-Year ARMs & Resets	1-Month to 3-Year ARMs	Total Held in Portfolio
	(in thousands)				
As of:					
June 30, 2022	\$	13,798,771	\$	2,939,467	\$ 3,993,956 \$ 20,732,194
March 31, 2022		14,174,611		2,858,521	3,443,816 20,476,948
December 31, 2021		13,228,675		2,896,014	3,695,269 19,819,958
September 30, 2021		12,921,572		2,872,499	3,818,550 19,612,621
June 30, 2021		11,800,429		2,878,637	4,254,625 18,933,691
March 31, 2021		11,454,321		2,824,551	4,410,661 18,689,533
December 31, 2020		11,330,414		2,816,840	4,511,964 18,659,218
September 30, 2020		10,879,372		2,811,547	5,013,640 18,704,559
June 30, 2020		10,793,629		2,845,266	5,076,445 18,715,340

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

Table 38

Net Effective Spread ⁽¹⁾														
Agricultural Finance					Rural Infrastructure Finance				Treasury				Net Effective Spread	
Farm & Ranch		Corporate AgFinance		Rural Utilities		Renewable Energy		Funding		Investments				
Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield			
(dollars in thousands)														
For the quarter ended:														
June 30, 2022 ⁽²⁾	\$32,590	1.05 %	\$ 6,929	1.87 %	\$ 3,733	0.27 %	\$ 468	1.78 %	\$18,508	0.30 %	\$(1,282)	(0.10)%	\$60,946	0.99 %
March 31, 2022	30,354	1.02 %	7,209	1.96 %	3,159	0.23 %	375	1.69 %	16,738	0.28 %	4	— %	57,839	0.97 %
December 31, 2021	28,998	0.99 %	6,321	1.84 %	2,521	0.19 %	356	1.53 %	15,979	0.28 %	158	0.01 %	54,333	0.94 %
September 30, 2021	28,914	1.06 %	7,163	1.80 %	2,067	0.16 %	236	1.09 %	17,386	0.31 %	159	0.01 %	55,925	0.99 %
June 30, 2021 ⁽²⁾	29,163	1.06 %	6,676	1.65 %	1,759	0.14 %	378	1.80 %	18,449	0.33 %	126	0.01 %	56,551	1.01 %
March 31, 2021	26,461	0.98 %	6,921	1.67 %	1,720	0.14 %	249	1.28 %	18,394	0.33 %	114	0.01 %	53,859	0.97 %
December 31, 2020	25,596	0.95 %	6,237	1.53 %	1,838	0.15 %	123	1.20 %	20,585	0.37 %	143	0.01 %	54,522	0.98 %
September 30, 2020	23,735	0.89 %	5,786	1.45 %	2,022	0.16 %	75	1.19 %	20,034	0.37 %	150	0.01 %	51,802	0.96 %
June 30, 2020	21,597	0.83 %	4,997	1.36 %	1,701	0.14 %	47	0.93 %	19,449	0.37 %	(1,322)	(0.13)%	46,469	0.89 %

⁽¹⁾ Farmer Mac excludes the Corporate segment in the presentation above because the segment does not have any interest-earning assets.

⁽²⁾ See Note 10 to the consolidated financial statements for a reconciliation of GAAP net interest income by segment to net effective spread by segment for the three months ended June 30, 2022 and 2021.

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

Table 39

	Core Earnings by Quarter End								
	June 2022	March 2022	December 2021	September 2021	June 2021	March 2021	December 2020	September 2020	June 2020
	(in thousands)								
Revenues:									
Net effective spread	\$ 60,946	\$ 57,839	\$ 54,333	\$ 55,925	\$ 56,551	\$ 53,859	\$ 54,522	\$ 51,802	\$ 46,469
Guarantee and commitment fees	4,709	4,557	4,637	4,322	4,334	4,240	4,652	4,659	4,943
Gain on sale of mortgage loans	—	—	6,539	—	—	—	—	—	—
Other	307	514	241	687	301	451	512	453	1,048
Total revenues	65,962	62,910	65,750	60,934	61,186	58,550	59,686	56,914	52,460
Credit related expense/(income):									
(Release of)/provision for losses	(1,535)	(54)	(1,428)	255	(983)	(31)	2,973	1,200	51
REO operating expenses	—	—	—	—	—	—	—	—	—
Losses/(gains) on sale of REO	—	—	—	—	—	—	22	—	—
Total credit related expense/(income)	(1,535)	(54)	(1,428)	255	(983)	(31)	2,995	1,200	51
Operating expenses:									
Compensation and employee benefits	11,715	13,298	11,246	10,027	9,779	11,795	9,497	8,791	8,087
General and administrative	7,520	7,278	8,492	6,330	6,349	6,336	6,274	5,044	5,295
Regulatory fees	813	812	812	750	750	750	750	725	725
Total operating expenses	20,048	21,388	20,550	17,107	16,878	18,881	16,521	14,560	14,107
Net earnings	47,449	41,576	46,628	43,572	45,291	39,700	40,170	41,154	38,302
Income tax expense	9,909	9,024	9,809	9,152	9,463	8,520	8,470	8,297	8,016
Preferred stock dividends	6,792	6,791	6,792	6,774	5,842	5,269	5,269	5,166	3,939
Core earnings	\$ 30,748	\$ 25,761	\$ 30,027	\$ 27,646	\$ 29,986	\$ 25,911	\$ 26,431	\$ 27,691	\$ 26,347
Reconciling items:									
Gains/(losses) on undesignated financial derivatives due to fair value changes	\$ 2,473	\$ 1,698	\$ (1,213)	\$ (1,864)	\$ (3,721)	\$ 1,695	\$ (1,758)	\$ (4,149)	\$ 8,700
Gains/(losses) on hedging activities due to fair value changes	5,916	2,024	1,476	(2,093)	(2,097)	(271)	3,827	(5,245)	(2,676)
Unrealized gains/(losses) on trading assets	(285)	94	(76)	36	(61)	(14)	223	(258)	(20)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(62)	20	71	23	20	16	(77)	97	35
Net effects of terminations or net settlements on financial derivatives	2,536	15,512	(429)	(351)	109	1,165	1,583	233	720
Issuance costs on the retirement of preferred stock	—	—	—	—	—	—	—	(1,667)	—
Income tax effect related to reconciling items	(2,222)	(4,063)	36	892	1,208	(544)	(798)	1,957	(1,419)
Net income attributable to common stockholders	\$ 39,104	\$ 41,046	\$ 29,892	\$ 24,289	\$ 25,444	\$ 27,958	\$ 29,431	\$ 18,659	\$ 31,687

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 ("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 Chief Executive Officer and Chief 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, 2022.

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 Chief Executive Officer and Chief Financial Officer. Based upon this evaluation, the Chief Executive Officer and Chief Financial Officer concluded that Farmer Mac's disclosure controls and procedures were effective as of June 30, 2022.

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, 2022 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

Information about risk factors can be found in “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Forward-Looking Statements” in Part I, Item 2 of this Form 10-Q and in Part I, Item 1A of Farmer Mac’s 2021 Annual Report.

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 2022, 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 427 shares of its Class C non-voting common stock in April 2022 to the five 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 \$108.48 per share, which was the closing price of the Class C non-voting common stock on March 31, 2022 (the last trading day of the previous quarter) as reported by the New York Stock Exchange.

(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	—	Title VIII of the Farm Credit Act of 1971, as most recently amended on June 18, 2020 (Previously filed as Exhibit 3.1 to Form 10-Q filed August 10, 2020).
*	3.2	—	Amended and Restated By-Laws of the Registrant (Previously filed as Exhibit 3.1 to Form 8-K filed May 12, 2020).
*	4.1	—	Specimen Certificate for Farmer Mac Class A Voting Common Stock (Previously filed as Exhibit 4.1 to Form 10-Q filed May 15, 2003).
*	4.2	—	Specimen Certificate for Farmer Mac Class B Voting Common Stock (Previously filed as Exhibit 4.2 to Form 10-Q filed May 15, 2003).
*	4.3	—	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).
*	4.4	—	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).
*	4.4.1	—	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).
*	4.5	—	Specimen Certificate for 5.700% Non-Cumulative Preferred Stock, Series D (Previously filed as Exhibit 4.7 to Form 10-Q filed August 1, 2019).
*	4.5.1	—	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).
*	4.6	—	Specimen Certificate for 5.750% Non-Cumulative Preferred Stock, Series E (Previously filed as Exhibit 4.7 to Form 10-Q filed August 10, 2020).
*	4.6.1	—	Certificate of Designation of Terms and Conditions of 5.750% Non-Cumulative Preferred Stock, Series E (Previously filed as Exhibit 4.1 to Form 8-A filed May 20, 2020).
*	4.7	—	Specimen Certificate for 5.250% Non-Cumulative Preferred Stock, Series F (Previously filed as Exhibit 4.8 to Form 10-Q filed November 9, 2020).
*	4.7.1	—	Certificate of Designation of Terms and Conditions of 5.250% Non-Cumulative Preferred Stock, Series F (Previously filed as Exhibit 4.1 to Form 8-A filed August 20, 2020).
*	4.8	—	Specimen Certificate for 4.875% Non-Cumulative Preferred Stock, Series G (Previously filed as Exhibit 4.8 to Form 10-Q filed August 5, 2021).
*	4.8.1	—	Certificate of Designation of Terms and Conditions of 4.875% Non-Cumulative Preferred Stock, Series G (Previously filed as Exhibit 4.1 to Form 8-A filed May 27, 2021).
*	4.9	—	Description of the Registrant's securities that are registered under Section 12 of the Securities Exchange Act of 1934 (Previously filed as Exhibit 4.9 to Form 10-Q filed August 5, 2021).
*	10.1	—	Fourth Amended and Restated First Supplemental Note Purchase Agreement between Farmer Mac Mortgage Securities Corporation, National Rural Utilities Cooperative Finance Corporation, and the Registrant, dated as of June 15, 2022 (Previously filed as Exhibit 10.1 to Form 8-K filed June 21, 2022).
**	31.1	—	Certification of Registrant's principal executive officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
**	31.2	—	Certification of Registrant's principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
**	32	—	Certification of Registrant's principal executive officer and principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the year ended June 30, 2022, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
**	101.INS	—	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
**	101.SCH	—	Inline XBRL Taxonomy Extension Schema
**	101.CAL	—	Inline XBRL Taxonomy Extension Calculation
**	101.DEF	—	Inline XBRL Taxonomy Extension Definition
**	101.LAB	—	Inline XBRL Taxonomy Extension Label
**	101.PRE	—	Inline XBRL Taxonomy Extension Presentation
**	104	—	Cover Page Inline Interactive Data File - the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document included as Exhibit 101

*	Incorporated by reference to the indicated prior filing.
**	Filed with this report.
#	Portions of this exhibit have been omitted pursuant to a request for confidential treatment.
†	Management contract or compensatory plan.

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

<div style="text-align: center; margin-bottom: 5px;"> <u> /s/ Bradford T. Nordholm </u> </div> <div> By: Bradford T. Nordholm President and Chief Executive Officer (Principal Executive Officer) </div>	<div style="margin-bottom: 5px;"> <u> August 8, 2022 </u> </div> <div> Date </div>
<div style="text-align: center; margin-bottom: 5px;"> <u> /s/ Aparna Ramesh </u> </div> <div> By: Aparna Ramesh Executive Vice President – Chief Financial Officer (Principal Financial Officer) </div>	<div style="margin-bottom: 5px;"> <u> August 8, 2022 </u> </div> <div> Date </div>