Our Strength is Rooted in Our Values

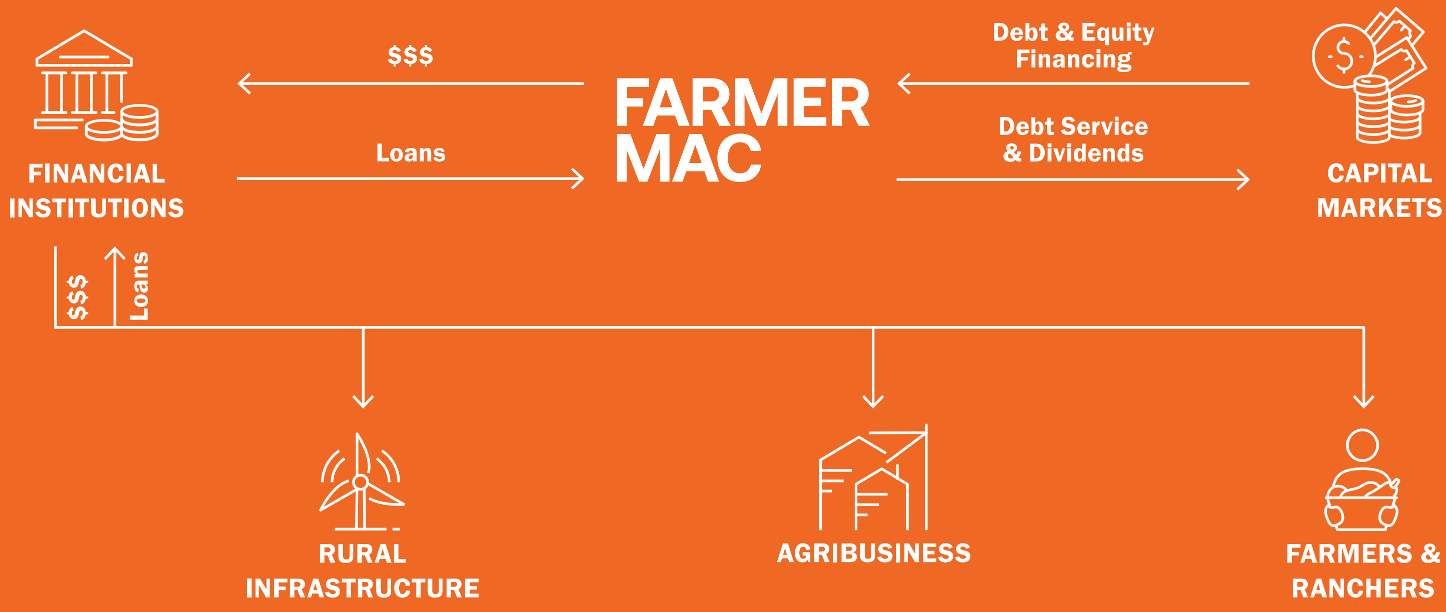
ANNUAL REPORT

2023

FARMER MAC

Accelerating Rural Opportunities

FARMER MAC'S SECONDARY MARKET ECOSYSTEM



Letter From Our CEO and Chair

LOWELL L. JUNKINS
Board Chair

BRADFORD T. NORDHOLM
President and
Chief Executive Officer

It is our privilege to address Farmer Mac's valued stakeholders and to once again report on the robust growth of our company, the impact of our mission, and the strategic vision that propels us forward.

At Farmer Mac, our vital mission to **increase the accessibility of financing for American agriculture and rural infrastructure** is more than a guiding principle. It is the heart of our corporate culture, informs our core values, and motivates all of us to drive positive results for our stakeholders—our investors, customers, employees, and the millions of Americans who benefit from our secondary market activities. Everyone at Farmer Mac can be proud to work for a company that has been a champion for and an integral part of this nation's rural economy for nearly four decades.

As we review our 2023 financial results—some of the strongest in our history—we think it's important to underline the connection between our recent successes, our plan for where we're headed, and our strong corporate culture. Our core values of **Passion for Our Mission, Innovation, Excellence, Relationships, and Integrity** inform and permeate everything we do. That's why we believe, wholeheartedly: our strength is rooted in our values.

The year in review: WINDS OF CHANGE AND OPPORTUNITY

Guided by our intentional strategy rooted in our values and an unwavering mission, we stand prepared to weather storms and cycles by diversifying our lines of business.

Through headwinds and tailwinds alike, Farmer Mac remains steadfastly committed to being a dependable and resilient partner for America's farmers and ranchers, agribusinesses, rural infrastructure businesses, our customers that lend to them, and the communities that rely upon them.

In 2023, many of our stakeholders faced headwinds as average farm incomes declined 21%, the most substantial drop in 17 years. It is noteworthy that even after this decline, U.S. farm incomes were still 27% higher in inflation-adjusted terms than pre-pandemic levels. The agricultural sector was generally resilient in other measures as well. Most farm balance sheets remained in reasonably good health, while overall default rates remained at low levels. And farmland values remained high by historical standards, generally supporting loan-to-value ratios on loans secured by agricultural real estate.

Through these winds of change, Farmer Mac remained a pillar of stability, contributing to the resiliency of America's rural communities. We maintained disciplined asset liability management, uninterrupted access to the capital markets, and a strong capital base. Guided by our intentional strategy rooted in our values and an unwavering mission, we stand prepared to weather storms and cycles by diversifying our lines of business.

Through fourth quarter 2023, Farmer Mac has achieved seven consecutive quarters of record-high earnings, a testament to our commitment to being a reliable partner. Farmer Mac provided $8.3 billion in new liquidity and lending capacity to lenders in 2023 and achieved a record business volume of $28.5 billion at year-end.

Growth in some of our newer focus areas helped us achieve our positive results. We drove volume by increasing our loan servicing platform, expanding our outreach in our wholesale finance product, and executing innovative new initiatives in a handful of sectors benefiting from significant tailwinds. We achieved a $257.4 million net increase in our Renewable Energy operating segment as that market continued to expand in 2023. As the nation focused on bolstering our food supply chain in response to lessons learned from instability during the pandemic and the war in Ukraine, we saw a $90.5 million net increase in our Corporate AgFinance operating segment. And the $1.1 billion net increase in our Rural Utilities operating segment reflected that sector's continued growth helping to bridge the digital divide and drive exciting new opportunities in rural America.

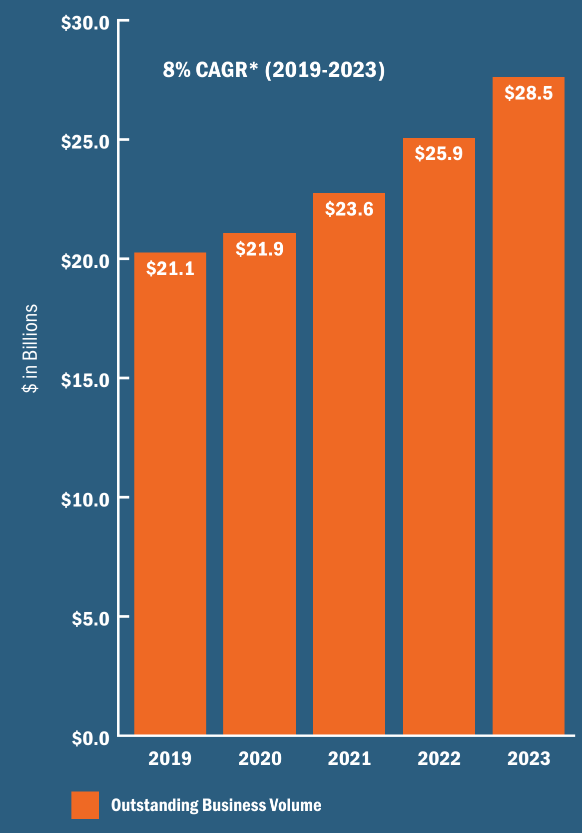
Our success continues to be driven by our team's execution of our multi-year strategic vision, systematic investments to bolster our expertise in new markets and modernize our infrastructure, and expansion in our business development strategy, all while maintaining disciplined asset liability management decisions and funding execution.

Our debt funding strategies and opportunistic capital raises in previous low-rate environments drove a remarkable 28% increase in our net effective spread (NES, a non-GAAP measure) to an all-time high of $327.0 million in 2023. Record NES, in turn, supported a 38% year-over-year increase in core earnings (also a non-GAAP measure) to a record $171.2 million.

Our gains in outstanding business volume and record financial results in 2023 speak to the foresight we have demonstrated over the last few years to diversify our business model, proactively manage our balance sheet and funding sources, bolster our liquidity profile, and create profitable growth opportunities in all interest rate environments. The discipline of our asset liability and equity capital management enables our growth and profitability.

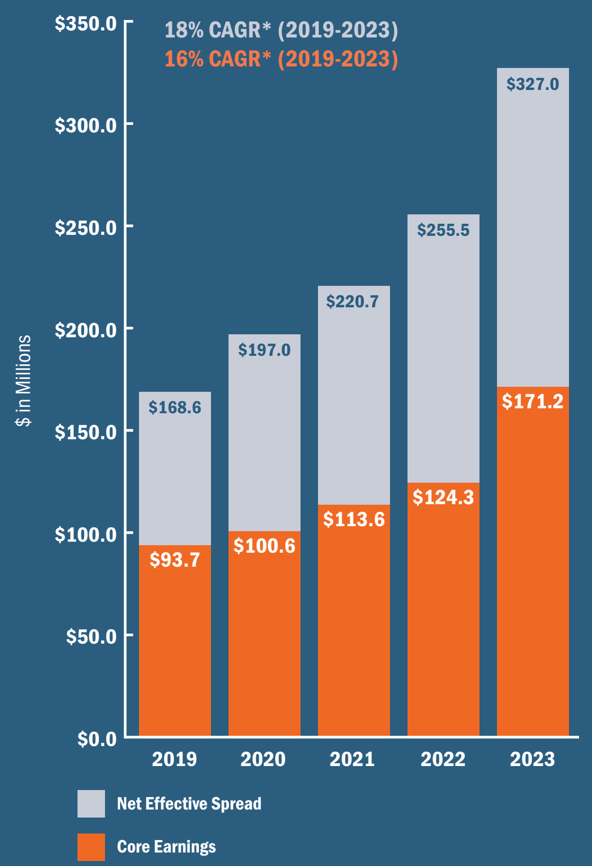
We ended 2023 with $1.5 billion of core capital. Our Tier 1 capital ratio improved to 15.4%, largely due to our robust earnings, supporting a substantial increase in our retained earnings. In consideration of our strong capital position and earnings growth, the Board of Directors raised our quarterly dividend to $1.40 per share of common stock for first quarter 2024, reflecting a 27% year-over-year increase, our thirteenth consecutive annual increase. Over the past five years, our total shareholder return has been four times the average of the S&P 500 Financials index with less than a quarter of the earnings volatility.

OUTSTANDING BUSINESS VOLUME



*CAGR is Compound Annual Growth Rate.

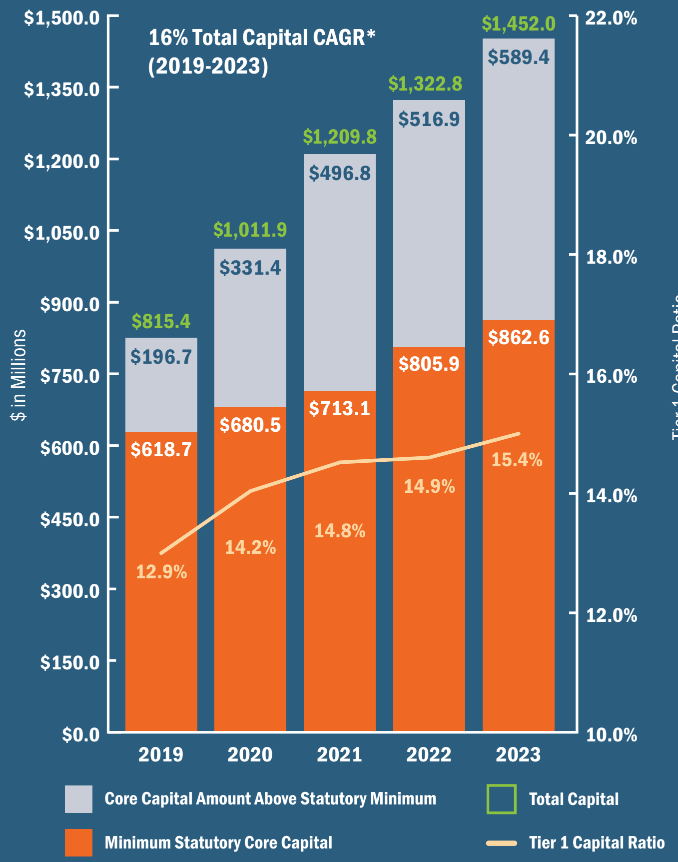
CORE EARNINGS & NET EFFECTIVE SPREAD**



*CAGR is Compound Annual Growth Rate.
**Core earnings and net effective spread are non-GAAP measures. For a reconciliation of core earnings to GAAP net income and of net effective spread to GAAP net interest income, please refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Farmer Mac's 2023 Annual Report on Form 10-K filed with the SEC.

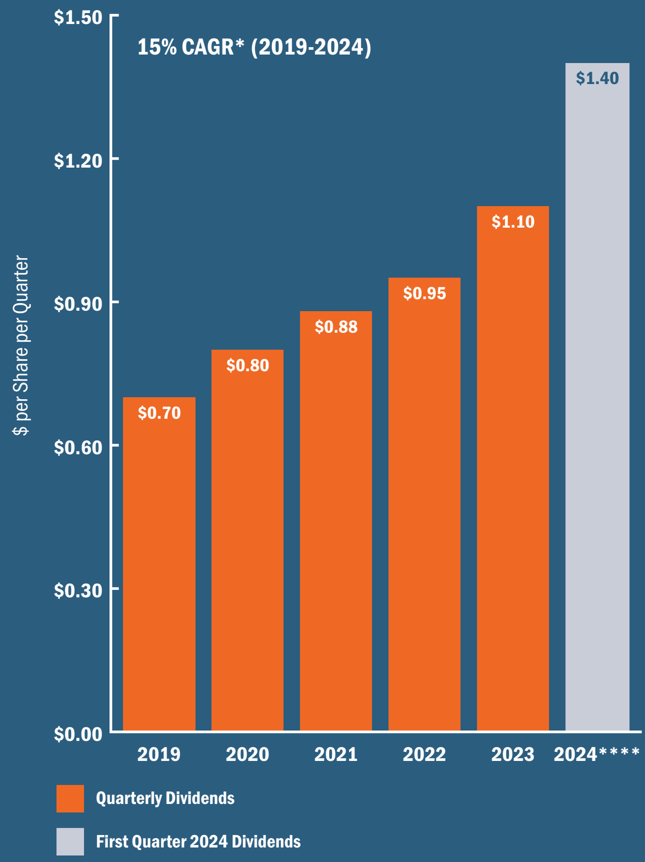
Through fourth quarter 2023, Farmer Mac has achieved seven consecutive quarters of record-high earnings, a testament to our commitment to being a reliable partner.

ENHANCED CAPITAL POSITION***



*CAGR is Compound Annual Growth Rate.
***Chart may not sum to total due to rounding.

COMMON STOCK QUARTERLY DIVIDENDS



*CAGR is Compound Annual Growth Rate.
****Chart shows dividend paid for first quarter 2024.
The level of future quarterly dividends is subject to change.

Why and how we achieve our strategic goals

Many great companies today strive to be mission-driven, and many are. But it is fair to say that our mission at Farmer Mac is especially integral to who we are, what we do, and why.

As much as we're dedicated to producing robust results for Farmer Mac, what motivates and inspires us is the positive impact we can create for our customers, their borrowers, and all of America because of our strong results. We believe that this approach ultimately leads to better, more consistent investor returns over time. It also means that our culture and values are especially central to every area of our business.

Our strength is rooted in our values. So, what are those values, and how are they informing our strategy, our recent successes, and our path along this critical next chapter of our journey?

Passion for our mission

One of the main reasons that people choose to work for Farmer Mac and that keeps them excited about their jobs is the tremendous impact they can have on executing our mission. As much as business volume, profitability, and share price are indicators of our success, we are even more energized by the $88 billion in financing we've provided to farmers, ranchers, agribusinesses, and rural electric cooperatives over the years, the 100,000 plus end borrowers we've served, and the 40 million rural Americans that have benefited from cheaper power and connectivity for their homes and businesses. As an organization, we also know that we couldn't achieve any of this without our passionate and driven employees, and we will always strive to foster a strong culture that supports and rewards them for their tireless work.

Farming and ranching are inherently risky professions that are extremely expensive to undertake, but in the past few years America's producers have faced unprecedented challenges. Access to adequate and affordable credit is integral to ensuring the survival of the agriculture industry domestically and continued American leadership. The strong relationship between lender and producer is even more important during uncertain economic times like we're seeing right now. Farmer Mac plays a key role in ensuring lenders can provide flexible and innovative financial solutions that meet the needs of farmers and ranchers during these challenging times. This makes Farmer Mac critical to maintaining America's ability to produce the world's safest, most affordable, and most abundant supply of food, fuel, and fiber.

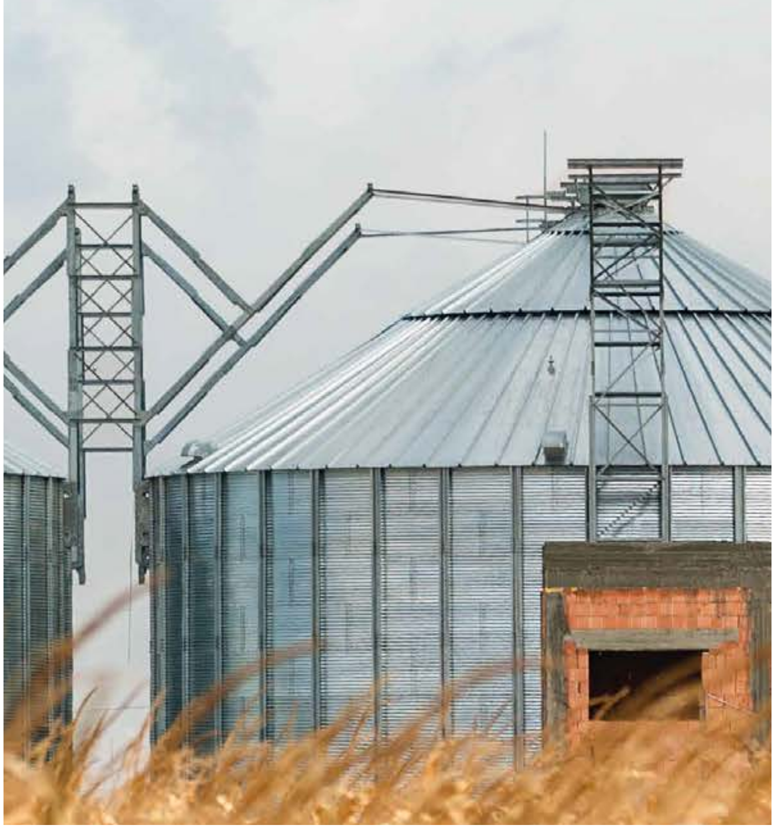
- SENATOR JOHN BOOZMAN (R-AR)

Innovation

For a company to succeed, it must grow and mature. And for a company to grow, it must innovate. Much of our strategic vision calls for continuing to harness a spirit of innovation to meet the future capital needs of American agriculture and rural infrastructure markets—and training that lens ever more on our own processes and systems.

We are investing heavily in digital transformations that we expect to simultaneously improve the customer experience, reduce closing times, and de-risk business processes. Data streams are being merged and transformed into a strategic asset to further increase efficiencies, help identify opportunities, and aid in real-time decision-making.

All the while, we are continuing to take a calculated approach to risk management as we innovate and expand to achieve our business objectives and work to fulfill our mission.



Excellence

We strive for excellence in every interaction we have with our customers. We recognize that speed, enhanced customer satisfaction, and sound business practices are critical elements to winning new customers, building customer loyalty, and maintaining a lasting business platform. With a heightened focus on customer segmentation across our customer channels, we aspire to become even more customer-driven and responsive to the needs of an increasingly diverse and fast-evolving customer base.

As we continue to expand our customer base in both traditional and newer operating segments, we recognize the value of a cohesive brand that projects the excellence we can provide in our work with all our stakeholders. We embarked on a journey in 2022 to assess and refine our brand positioning. Emphasizing the importance of this letter as an opportunity to speak directly with our stakeholders, it is one of the first times we are debuting our newly refined and simplified logo, accompanied by our new tagline: Accelerating Rural Opportunities. This broader tagline not only represents our impact across all operating segments but also signifies our commitment to driving meaningful, positive change for rural America. We take pride in this opportunity to share our rebranding journey directly with all our stakeholders, emphasizing our dedication to collaboration and excellence in serving as a reliable partner.

Relationships

Forging and strengthening relationships have always been central to our ability to facilitate growth. We have always understood the value of establishing bonds across our various constituents, from Wall Street to rural America. We cannot highlight enough how important it is to nurture and support these bonds to drive our mission, our growth, and the essential contribution our secondary market makes to the agriculture and rural ecosystem.

Recently, we have focused on expanding our relationships to bring even greater efficiencies to the rural credit markets. A good example is our FARM securitization program. Given the strong demand for and positive reception of our FARM issuances, we remain committed to being a regular issuer in the market with a set of securitization products that align with customer and investor interest. As we assess the strategic objectives for the program, we plan to transform the FARM securitization program from a financing strategy to offering this as a product designed to help support our customers' capital and financing needs.

Integrity

At Farmer Mac, we believe that how we get the job done—ethically, honestly, with careful consideration for others and our trusted role in a larger ecosystem—is as important as our achievements.

Ensuring that our work is done with integrity starts with nurturing a strong corporate culture and workforce that respects and rewards our employees. We recognize our work would be impossible without our dedicated and talented employees, whom we deeply value.

In 2023, we took a step to directly align incentives with our mission-focused work by extending equity award compensation to all employees. We are continually strengthening our focus on career development and diversity, equity, and inclusion efforts, with an emphasis on ensuring each employee feels included and valued. And our "Presence with Purpose" hybrid work model provides our teams the flexibility to work in the ways they are most productive.

Our culture-building efforts were recognized once again in the form of several Top Workplace awards in 2023, including national recognition by USA Today and culture-focused awards for compensation and benefits, purpose and values, and work-life flexibility. And we're proud of our low 6.3% percent employee turnover rate in 2023—a sign that our focus on retaining and rewarding talent is making a difference.

At Farmer Mac, valuing our employees isn't just a box to check—it's fundamental to our approach to achieving our mission with integrity.

Farmer Mac remains a critical partner for American agriculture and rural infrastructure. Whether it's supporting our farmers and ranchers across more than 144 different commodities or providing financial solutions to close the digital divide, Farmer Mac plays a crucial role as the nation's secondary market for agricultural credit.

- CONGRESSMAN DAVID SCOTT (D-GA)

We recognize our work would be impossible without our dedicated and talented employees, whom we deeply value.

A FUTURE FORTIFIED BY VALUES

In many ways, rural America is very different than it was when Farmer Mac was created 36 years ago. Farmers increasingly leverage huge sets of data to make planting decisions—and can easily perform that analysis on their cell phones and tablets while out in their fields. Once-experimental practices for water preservation and soil regeneration have become routine. In more and more places, solar panels flank the property lines. Wind turbines twirl overhead.

Much of this change has brought new opportunities and connections to rural communities, enriching the lives of millions. Through the innovative financial products and solutions we provide and the research initiatives we support, Farmer Mac is helping to strengthen, power, and connect rural America.

And yet, through all these winds of change, rural America has maintained a culture rooted in community values. Even today, small family farms operating on less than $350,000 in gross farm income a year constitute almost 90% of all U.S. farms. The goals and aspirations farmers and ranchers across the country have for themselves and future generations, the inherent uncertainties they face, the values that tie them to the sector and the land—these haven't changed all that much through the decades Farmer Mac has been doing business, nor has our essential commitment to supporting our stakeholders' struggles and triumphs.

We sincerely thank all our stakeholders for being an integral part of the Farmer Mac story, which continues to evolve. We will continue innovating and improving because it is crucial for fulfilling our mission in a dynamic marketplace. As our work continues to support a brighter future for rural America, our collective success will be driven not only by the constancy of our mission but by the values that guide us and serve as the strong foundation of everything we do.

BRADFORD T. NORDHOLM
President and
Chief Executive Officer

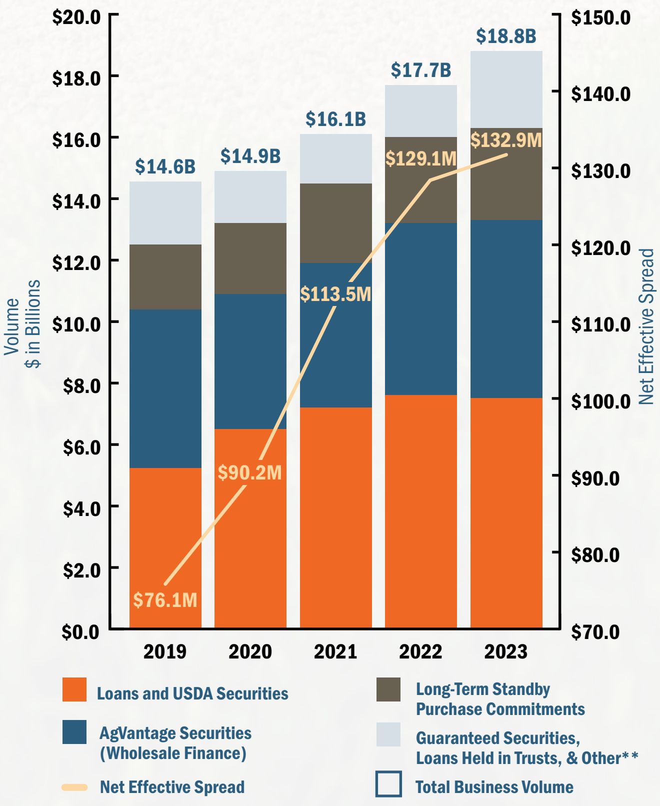
LOWELL L. JUNKINS
Board Chair

LINE OF BUSINESS

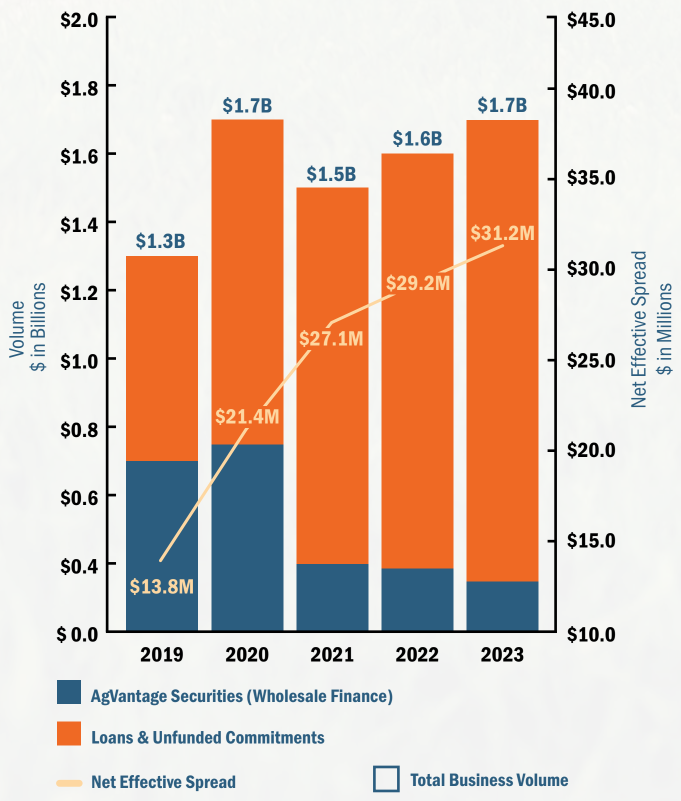
Agricultural Finance

Farmer Mac's Agricultural Finance line of business is composed of the Farm & Ranch and Corporate AgFinance operating segments. Across both segments, Farmer Mac provides a secondary market to a diverse customer set, offering a wide range of products and innovative solutions that assist with their capital, liquidity, and portfolio diversification needs. The Agricultural Finance business line helps agricultural lenders and financial institutions support their customers by providing better and more efficient access to financing solutions across American agriculture.

FARM & RANCH BUSINESS VOLUME & NET EFFECTIVE SPREAD*



CORPORATE AGFINANCE BUSINESS VOLUME & NET EFFECTIVE SPREAD*



*Net effective spread is a non-GAAP measure. For a reconciliation of net effective spread to GAAP net interest income, please refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Farmer Mac's 2023 Annual Report on Form 10-K filed with the SEC.
**"Other" includes IO-FMGS and loans serviced for others.

Segments

FARM & RANCH

Through its Farm & Ranch operating segment, Farmer Mac works with customers varying from small community banks to large financial institutions and nonbank lenders. Farmer Mac's innovative products and solutions help these customers reduce interest rate risk and credit risk, manage their capital efficiency, and offer more competitive and efficient products and terms to better support lending initiatives to farmers and ranchers across the country.

Overall Farm & Ranch business volume increased 6.1% in 2023, primarily driven by newly purchased servicing rights on $0.6 billion of loans serviced for other financial institutions. Farmer Mac's Farm & Ranch wholesale finance product (i.e., AgVantage Securities) also contributed to growth in the Agricultural Finance line of business in 2023, as the relative value and competitive pricing of this product increased customer utilization. Conversely, loan purchase volume growth slowed compared to historical performance, as farmers and ranchers adjusted to higher mortgage interest rates as well as record 2022 farm incomes. Looking forward, we expect Farm & Ranch loan purchase volume to begin to recover as farm incomes recede from multi-year highs along with the potential for a decrease in market interest rates.

CORPORATE AGFINANCE

Farmer Mac's Corporate AgFinance operating segment provides financing solutions through a secondary market that reaches across a broad portion of the agricultural supply chain and the institutional investor community. This segment serves a diverse set of customers ranging from community banks and large financial institutions to institutional investors and funds. They turn to Farmer Mac for a reliable source of financial solutions to help finance large, complex agribusinesses, vertically integrated farming operations, and institutional investment vehicles. For these capital-intensive needs, Farmer Mac provides flexible and competitive debt financing solutions tailored to meet borrowers' varied needs, including direct loan purchase, broad participation in group syndicated transactions, and wholesale financing.

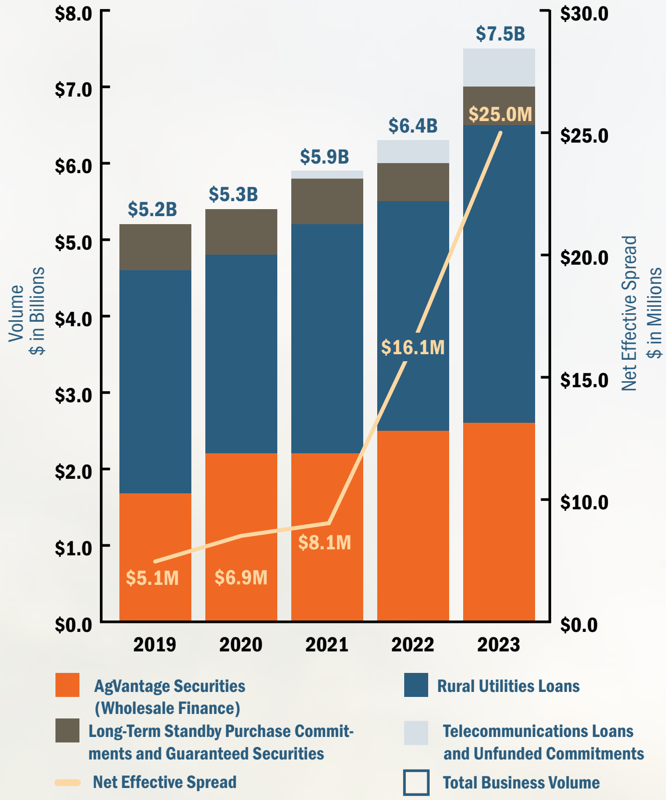
Incremental loan and unfunded commitment purchase volume in Corporate AgFinance contributed to the overall growth of business volume in our Agricultural Finance business line in 2023. This growth continued to reflect an increase in activity reflecting Farmer Mac's commitment to build a strong brand and reputation in this marketplace. We achieved approximately $161.2 million in net growth of loans and unfunded commitments in Corporate AgFinance, representing a 13% increase in volume in 2023, at accretive spreads, which supported a strong increase in revenues. Farmer Mac is prepared to continue to serve the needs of financial institutions and their borrowers across the food supply chain.

LINE OF BUSINESS

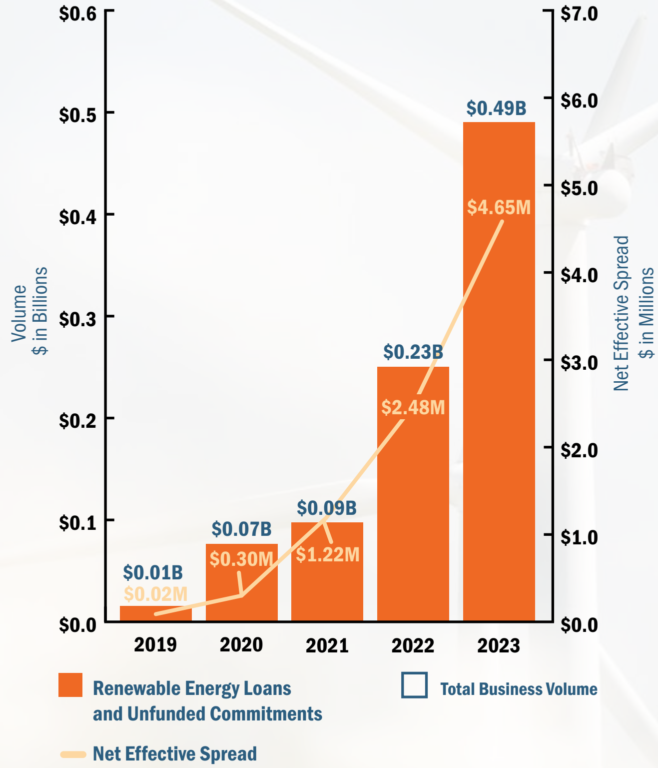
Rural Infrastructure Finance

Capital-intensive investments are required to deliver reliable electric power and communications services to communities across rural America. Farmer Mac's Rural Utilities and Renewable Energy operating segments help lenders organized as cooperatives finance these important expansion and improvement projects through a secondary market. Farmer Mac saw tremendous growth across Rural Infrastructure Finance in 2023, steadily increasing the extent to which we support the vital access to these services that millions of rural residents and businesses rely on and helping to connect rural communities.

RURAL UTILITIES BUSINESS VOLUME & NET EFFECTIVE SPREAD*



RENEWABLE ENERGY BUSINESS VOLUME & NET EFFECTIVE SPREAD*



*Net effective spread is a non-GAAP measure. For a reconciliation of net effective spread to GAAP net interest income, please refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Farmer Mac's 2023 Annual Report on Form 10-K filed with the SEC.

Segments

RURAL UTILITIES

Reliable power and communications infrastructure is crucial in the modern age, but America's rural communities have been historically underserved. In its Rural Utilities operating segment, Farmer Mac offers a wide range of competitively priced, flexible solutions that support the ability of financial institutions organized as cooperatives to provide financing to a variety of rural infrastructure borrowers. This funding is used for electric generation, transmission, and distribution systems as well as broadband projects to deliver safe, affordable, and reliable power and high-speed telecommunications services to homes, farms, businesses, and schools across the country.

During 2023, the Rural Utilities operating segment saw meaningful growth as borrowers had significant financing needs for both recurring maintenance and growth initiatives aimed at delivering reliable and affordable energy and communications services to rural communities. The continued strong capital investment in America's electric generation, transmission, and distribution infrastructure supported significant growth in wholesale finance (i.e., AgVantage Securities), which saw increased financing of $854.3 million in 2023 as cooperative lenders continued to support their members' investment needs. Farmer Mac's telecommunications portfolio alone achieved more than $190 million of growth in loans and unfunded commitments in 2023, much of it related to major public and private initiatives to extend and upgrade the country's rural broadband coverage. Looking ahead, Farmer Mac anticipates continued strong demand across its Rural Utilities operating segment and remains focused on providing solutions to cooperative lenders to help finance their borrowers' investments in rural utility infrastructure.

RENEWABLE ENERGY

One pillar in supporting critical energy infrastructure across rural America is the growing and diverse renewable energy sector. Renewable power costs have fallen significantly in recent years with a simultaneous rise in government and corporate interest in renewable infrastructure, heating up this growing market. With its Renewable Energy operating segment, Farmer Mac provides the competitive benefits of a secondary market for financial institutions organized as cooperatives to help finance renewable energy projects generating and distributing energy across rural America.

In 2023, Farmer Mac more than doubled the size of its Renewable Energy portfolio for the second year in a row, to $487.5 million. The industry's projected pipeline of projects remains robust, bolstered by ongoing federal support and many state-level plans to accelerate the transition from fossil-fuel-fired generation. As Farmer Mac continues investing to support the potential for significant portfolio growth in the future, the expanded Renewable Energy team will strive to continue to serve as a reliable partner to cooperative lenders to help deliver affordable power to rural communities and further the development of infrastructure critical to the future of all Americans.

More than metrics

It all starts with people. As Farmer Mac increases its commitment to rural America, its main engine will continue to be a workforce passionate about driving positive change. Farmer Mac strives to support our employees in all aspects of their lives. This includes finding ways to serve rural America together—going above and beyond the work we do in pursuit of our mission.

MAKING MEANINGFUL CHANGE THAT'S ROOTED IN GIVING

We proudly engage in philanthropy, welcoming the opportunity to give back to our communities and our country. We focus our efforts on volunteerism that begins in the communities in which we live and work, on providing aid and relief for natural disasters impacting agricultural and rural areas, and on supporting programs aimed at helping small operations, new farmers and ranchers, and underrepresented groups grow and prosper.

This year, specific focus areas included supporting two fellowship programs—one aimed at helping advance the education of those interested in preserving the legacy of agriculture in America's Tribal communities, and the other at supporting aspiring women ag professionals. We also provided financial sponsorship for the fight against rural childhood hunger, which grew out of a hands-on volunteer event with employees.

"The Tribal Agricultural Fellowship (TAF) has given me the opportunity to learn more about indigenous agriculture, meet other young professionals across the United States, and continue my higher education. I'm so thankful to be a part of a group that helps me grow as a leader and share my native identity."

Keona Mason, senior in Agricultural Communications at Oklahoma State University, and a member of the second cohort of TAF fellows. Farmer Mac is a founding funder of the program.

To learn more about TAF, please visit taffellows.org

TAF
TRIBAL AGRICULTURE FELLOWSHIP

"The Summit was a great experience! I was able to talk with women in the industry and learn about their careers and experiences. I loved being able to learn and connect with many women in the agricultural industry, learning new facts and exciting insights on Gen Z in the workplace, regenerative initiatives, and changing policies. Thank you, Farmer Mac, for sponsoring my trip!"

Maggie Long, Masters of Agribusiness candidate at Texas A&M University, one of three students sponsored by Farmer Mac to attend the 2023 Women in Agriculture Summit in Nashville, Tennessee.

In November 2023, 18 employees from our Iowa office participated in a meal-packing event with Meals from the Heartland in Des Moines. The team packaged 9,720 meals, ensuring that 37 underprivileged children from the surrounding communities would be fed for the next year. So enthusiastic was the team's feedback about the experience that our Philanthropic Committee subsequently approved a $25,000 contribution to the group.

WE ARE ONE FARMER MAC, ON A JOURNEY TOGETHER

The positive results Farmer Mac achieves for rural America begin with and are fueled by our employees. As we broaden and deepen our mission, we recognize the importance of keeping our employees at the forefront of owning and driving our evolution. That was part of the thinking behind our new brand repositioning and its emphasis on Farmer Mac's special role in helping rural America navigate a period of tremendous change. We realize that to successfully achieve our ambitious business goals, it will not only require new and established stakeholders to grasp the opportunity represented by our expanded value proposition. Our employees will also need opportunities to fully absorb and imprint the vision—to ensure, as always, they are all in.

We are committed to fostering a strong workplace and are proud to be recognized for our efforts on the national stage.

Jenny Knapik, Program Manager, Information Technology, is one of the 2023 recipients of Farmer Mac's Living Our Values awards. Her winning nomination cited her leadership on a major technological modernization project that involved coordinating the efforts of 80+ people, including a multitude of outside vendors.

When describing a few of Jenny's noteworthy attributes, one senior stakeholder especially appreciated her willingness to self-reflect and self-correct as road bumps to the transformational technology project she led emerged so that success could be achieved. According to Jenny, it's a trait shared by many of her colleagues. "Part of what I love most about working at Farmer Mac is everyone has the same can-do attitude," she says. "People here don't take themselves too seriously. It's always 'What more can I do to help?' 'What can we be doing better?' When you start with a mindset like that, even the most complex projects can feel a whole lot more manageable."

BOARD OF DIRECTORS

As of April 3, 2024

From Left: *Robert Sexton, James Engebretsen, Eric McKissack, Amy Gales, Mitchell Johnson, LaJuana Wilcher, Chester Culver, Lowell Junkins, Dennis Brack, Sara Faivre, Everett Dobrinski, Richard Davidson, Todd Ware, Roy Tiarks, Charles Stones*

[1] Presidential Appointee
[2] Director elected by holders of Class A Common Stock
[3] Director elected by holders of Class B Common Stock

LOWELL L. JUNKINS, CHAIR[1]
Political Affairs Consultant
Lowell Junkins & Associates
Montrose, Iowa

LAJUANA S. WILCHER, VICE CHAIR[1]
Owner – Scuffle Hill Farm
Partner – English, Lucas, Priest & Owsley, LLP
Bowling Green, Kentucky

DENNIS L. BRACK[2]
Director
Bath State Bank and Bath State Bancorp
Bath, Indiana

CHESTER J. CULVER[1]
Founder
Chet Culver Group
West Des Moines, Iowa

RICHARD H. DAVIDSON[3]
President
Davidson Farms, Inc.
Washington Court House, Ohio

EVERETT M. DOBRINSKI[3]
Former Owner/Operator
Dobrinski Farm
Makoti, North Dakota

JAMES R. ENGEBRETSEN[2]
Retired Professor, Finance
Marriott School of Management
Brigham Young University
Provo, Utah

SARA L. FAIVRE[1]
Co-Owner and Advisory Partner
Wild Type Ranch
Cameron, Texas

AMY H. GALES[3]
Retired Executive Vice President
CoBank
Bonita Springs, Florida

MITCHELL A. JOHNSON[2]
Financial Consultant
Miami, Florida

ERIC T. MCKISSACK[2]
Former CEO
Channing Capital Management, LLC
Chicago, Illinois

ROBERT G. SEXTON[3]
President
Oslo Citrus Growers Association
Vero Beach, Florida

CHARLES A. STONES[1]
Former President
Kansas Bankers Association
Topeka, Kansas

ROY H. TIARKS[3]
Owner
Tiarks Family Farm
Council Bluffs, Iowa

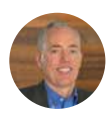
TODD P. WARE[2]
President and Chief Executive Officer
Licking Rural Electrification –
The Energy Cooperative
Newark, Ohio

EXECUTIVE ROUNDTABLE

As of April 3, 2024

BRADFORD T. NORDHOLM
President and
Chief Executive Officer

ZACHARY N. CARPENTER
Executive Vice President –
Chief Business Officer

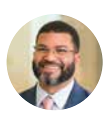


STEPHEN P. MULLERY
Executive Vice President –
General Counsel and Secretary

APARNA RAMESH
Executive Vice President –
Chief Financial Officer
and Treasurer

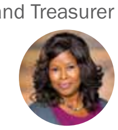
BRIAN M. BRINCH
Senior Vice President –
Enterprise Risk Officer

MARC J. CRADY
Senior Vice President –
Chief Credit Officer



SEAN T. DATCHER
Senior Vice President –
Chief Information Officer

ROBERT J. MAINES
Senior Vice President –
Operations



KERRY T. WILLIE
Senior Vice President –
Chief Human
Resources Officer

TODD A. BATTA
Vice President –
Government Affairs

LISA MEYER
Vice President –
Marketing and Corporate
Communications

CATHERINE D. BIRR
Chief of Staff

As filed with the Securities and Exchange Commission on February 23, 2024

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2023

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 if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

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.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b) ☐

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

Yes ☐ No ☒

The aggregate market value of the Class A voting common stock and Class C non-voting common stock held by non-affiliates of the registrant was $1,402,769,072 as of June 30, 2023, the last business day of the registrant's most recently completed second fiscal quarter, based upon the closing prices for the respective classes on June 30, 2023 reported by the New York Stock Exchange. For purposes of this information, the outstanding shares of Class A voting common stock and Class C non-voting common stock held by directors, executive officers, and significant stockholders of the registrant, as applicable, as of June 30, 2023 were deemed to be held by affiliates. The aggregate market value of the Class B voting common stock is not ascertainable due to the absence of publicly available quotations or prices for the Class B voting common stock as a result of the limited market for, and infrequency of trades in, Class B voting common stock and the fact that any such trades are privately negotiated transactions.

As of February 9, 2024, the registrant had outstanding 1,030,780 shares of Class A voting common stock, 500,301 shares of Class B voting common stock, and 9,315,397 shares of Class C non-voting common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information contained in the registrant's Proxy Statement for the 2024 Annual Meeting of Stockholders is incorporated herein by reference in Part III of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year to which this report relates.

Auditor Firm ID: 238 Auditor Name: PricewaterhouseCoopers LLP Auditor Location: Washington DC, USA

Table of Contents

	Forward-Looking Statements	6
PART I		8
Item 1.	Business	8
	General	8
	Farmer Mac's Line of Business	10
	Competition	19
	Capital and Corporate Governance	20
	Human Capital	22
	Available Information	25
	Funding of Guarantee and LTSPC Obligations	25
	Financing	26
	Debt Issuance	26
	Equity Issuance	26
	Farmer Mac's Authority to Borrow from the U.S. Treasury	30
	Government Regulation of Farmer Mac	31
	General	31
	Office of Secondary Market Oversight	31
	Capital Standards	32
	Liquidity Requirements	34
Item 1A.	Risk Factors	36
Item 1B.	Unresolved Staff Comments	50
Item 1C.	Cybersecurity	51
Item 2.	Properties	53
Item 3.	Legal Proceedings	54
Item 4.	Mine Safety Disclosures	54
PART II		51
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities	55
Item 6.	[Reserved]	53
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	58
	Overview	58
	Critical Accounting Estimates	63
	Use of Non-GAAP Measures	64
	Results of Operations	66
	Outlook	85
	Balance Sheet Review	91
	Risk Management	91
	Liquidity and Capital Resources	107
	Other Matters	111
	Supplemental Information	111
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	115
Item 8.	Financial Statements	116
	Consolidated Balance Sheets	120

	Consolidated Statements of Operations	121
	Consolidated Statements of Comprehensive Income	122
	Consolidated Statements of Equity	123
	Consolidated Statements of Cash Flows	124
	Notes to Consolidated Financial Statements	125
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	194
Item 9A.	Controls and Procedures	195
Item 9B.	Other Information	195
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	195
PART III		196
Item 10.	Directors, Executive Officers, and Corporate Governance	196
Item 11.	Executive Compensation	196
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	196
Item 13.	Certain Relationships and Related Transactions and Director Independence	196
Item 14.	Principal Accountant Fees and Services	196
PART IV		196
Item 15.	Exhibits	196
Item 16.	Form 10-K Summary	199
Signatures		199

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;
- 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 this 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 infrastructure indebtedness;
- the effect of economic conditions stemming from disruptive global events or otherwise on agricultural mortgage or rural infrastructure lending, borrower repayment capacity, or collateral values, including inflation, fluctuations in interest rates, changes in U.S. trade policies, fluctuations in export demand for U.S. agricultural products and foreign currency exchange

rates, supply chain disruptions, increases in input costs, labor availability, and volatility in commodity prices;
- 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 to respond to inflation and employment levels; and
- other factors that could hinder agricultural mortgage lending or borrower repayment capacity, including the effects of severe weather, flooding and drought, climate change, or fluctuations in agricultural real estate values.

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.

PART I

Item 1. Business

GENERAL

Farmer Mac is a stockholder-owned, federally chartered corporation that combines private capital and public sponsorship to serve a public purpose. Congress has charged Farmer Mac with the mission of providing a secondary market for a variety of loans made to borrowers in rural America. A secondary market is an economic arrangement in which the owners of financial assets, such as the originators of loans, may sell all or part of those assets or pay a fee to offset some or all of the inherent risks of holding the assets. Farmer Mac's secondary market activities include:

- purchasing eligible loans directly from lenders (including participation interests, syndicated notes, revolving and non-revolving credit facilities, and unfunded commitments to make advances on loans);
- guaranteeing and purchasing securities issued by lenders and other financial institutions that are secured by pools of eligible loans (Farmer Mac refers to these securities as "AgVantage," a registered trademark of Farmer Mac);
- issuing and guaranteeing securities that represent interests in, or obligations secured by, pools of eligible loans (together with AgVantage, Farmer Mac refers to these securities as "Farmer Mac Guaranteed Securities");
- servicing (including as master servicer) eligible loans, including loans that have been purchased or securitized by Farmer Mac or that would be eligible for purchase by Farmer Mac but are owned by a third party; and
- providing long-term standby purchase commitments ("LTSPCs") for eligible loans.

Farmer Mac Guaranteed Securities may be retained by the seller of the underlying loans, retained by Farmer Mac, or sold to third-party investors.

Farmer Mac was established under federal legislation first enacted in 1988 and amended most recently in 2018 – Title VIII of the Farm Credit Act of 1971 (12 U.S.C. §§ 2279aa et seq.), which is referred to as Farmer Mac's charter. Farmer Mac is a government-sponsored enterprise ("GSE") by virtue of the status conferred by its charter. The charter provides that Farmer Mac has the power to establish, acquire, and maintain affiliates under applicable state law to carry out any activities that Farmer Mac otherwise would perform directly. Farmer Mac established its two existing subsidiaries – Farmer Mac II LLC and Farmer Mac Mortgage Securities Corporation – under that power.

Farmer Mac is an institution of the Farm Credit System ("FCS"), which is composed of the banks, associations, and related entities, including Farmer Mac and its subsidiaries, regulated by the Farm Credit Administration ("FCA"), an independent agency in the executive branch of the United States government. Although Farmer Mac is an institution of the FCS, it is not liable for any debt or obligation of any other institution of the FCS. None of FCA, the FCS, or any other individual institution of the FCS is liable for any debt or obligation of Farmer Mac or its subsidiaries. The debts and obligations of Farmer Mac and its subsidiaries are not guaranteed by the full faith and credit of the United States of America.

Farmer Mac's two primary sources of revenue are:

- interest income earned on assets held on balance sheet, net of related funding costs and interest payments and receipts on financial derivatives; and
- guarantee and commitment fees received for outstanding guaranteed securities and LTSPCs.

Farmer Mac funds its purchases of eligible loans and securities primarily by issuing debt obligations of various maturities in the public capital markets. Farmer Mac also uses the proceeds of debt issuance to fund liquidity investments that must comply with policies adopted by Farmer Mac's board of directors and with FCA regulations, which establish limitations on asset class, dollar amount, issuer concentration, and credit quality. Those regulations can be found at 12 C.F.R. §§ 652.1-652.45 ("Liquidity and Investment Regulations"). Farmer Mac's regular debt issuance supports its access to the capital markets, and Farmer Mac's liquidity investments provide an alternative source of funds should market conditions become unfavorable. As of December 31, 2023, Farmer Mac had $1.7 billion of discount notes and $24.9 billion of medium-term notes outstanding. For more information about Farmer Mac's eligible loans, securities, and liquidity investments, as well as its financial performance and sources of capital and liquidity, see "Management's Discussion and Analysis of Financial Condition and Results of Operations." For more information about Farmer Mac's debt issuance, see "Business—Financing—Debt Issuance."

Secondary Market

Farmer Mac's activities are intended to provide lenders with an efficient and competitive secondary market that enhances these lenders' ability to offer competitively-priced financing solutions to borrowers. This secondary market is designed to increase the availability of credit at competitive interest rates to America's rural communities and agricultural sectors, as well as to provide borrowers with the benefits of capital markets pricing and product innovation. The secondary market provided by Farmer Mac functions as a bridge between the public capital markets and the U.S. agricultural and rural credit markets by attracting additional capital sources for financing rural America and agricultural borrowers.

Farmer Mac's purchases of loans and securities and its sale of guaranteed securities to investors increase lenders' liquidity and lending capacity and provide a stable source of funding for lenders that extend credit to the agricultural and rural credit markets. Farmer Mac's issuance of LTSPCs for loans held by lenders and its issuance of guaranteed securities to lenders in exchange for the related securitized loans could result in lower regulatory capital requirements and reduced borrower or commodity concentration exposure for many lenders, thereby expanding their lending capacity. By providing efficient and competitive financing solutions, Farmer Mac has the potential to increase lending flexibility for rural credit markets, which may result in lower interest rates paid on loans made by lenders to rural and agricultural borrowers.

Farmer Mac markets a mix of products to lenders who may be in need of capital, liquidity, portfolio diversification, and/or access to a wide variety of loan products, including those with long-term fixed rates. As part of its outreach strategy, Farmer Mac engages with current and prospective lenders to identify how their use of Farmer Mac's secondary market could further support their origination efforts and drive efficient capital deployment to agricultural communities and rural America. Farmer Mac also provides wholesale funding for institutional investors in agricultural assets that qualify as eligible collateral under Farmer Mac's charter. For these potential issuers, Farmer Mac directs its outreach efforts through its business relationships within the agricultural community and through outreach to institutions whose profile may benefit from wholesale funding. Farmer Mac seeks to maximize the use of technology to support these business development efforts.

FARMER MAC'S LINES OF BUSINESS

Farmer Mac engages in a variety of secondary market activities across its two lines of business, Agricultural Finance and Rural Infrastructure Finance. Within those two lines of business are four segments: Corporate AgFinance, Farm & Ranch, Rural Utilities, and Renewable Energy, as shown in the table below:

	Agricultural Finance		**Rural Infrastructure Finance**	
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy
Interest-earning assets				
Loans	X	X	X	X
Loans held in securitization trusts (single-class)[1]	X			
AgVantage Securities[1]	X	X	X	
Interest-only portions of agricultural mortgage-backed securities ("IO")[1]	X			
USDA Securities	X			
Products and services that earn fee income				
LTSPCs	X		X	
Unfunded loan commitments	X	X	X	X
Structured securitization transactions[1]	X			
Loan servicing	X			
Other Farmer Mac Guaranteed Securities[1]	X			

[1] These categories comprise "Farmer Mac Guaranteed Securities."

The loans (and interests in those loans) eligible for Farmer Mac's secondary market activities in each of Farmer Mac's lines of business include:

- For Farmer Mac's Agricultural Finance line of business, mortgage loans secured by first liens on real estate used in agricultural production or processing, including part-time farms and rural housing loans, as well as agricultural and rural development loans guaranteed by the United States Department of Agriculture ("USDA"); and
- For Farmer Mac's Rural Infrastructure Finance line of business, loans by lenders organized as cooperatives to finance electrification and telecommunications systems and renewable energy providers or projects in rural areas.

As of December 31, 2023, the total outstanding business volume in Farmer Mac's two lines of business (Agricultural Finance and Rural Infrastructure Finance) was $28.5 billion. The following table presents the outstanding balances under Farmer Mac's two lines of business as of December 31, 2023 and 2022:

Lines of Business - Outstanding Business Volume

	On or Off Balance Sheet	As of December 31, 2023	As of December 31, 2022
		(in thousands)	
Agricultural Finance:			
Farm & Ranch:			
Loans	On-balance sheet	$ 5,133,450	$ 5,150,750
Loans held in consolidated trusts:			
Beneficial interests owned by third-party investors (single-class)[1]	On-balance sheet	870,912	914,918
Beneficial interests owned by third-party investors (structured)[1]	On-balance sheet	561,349	296,658
IO-FMGS[2]	On-balance sheet	9,409	10,622
USDA Securities	On-balance sheet	2,368,872	2,407,302
AgVantage Securities[1]	On-balance sheet	5,835,000	5,605,000
LTSPCs and unfunded loan commitments	Off-balance sheet	2,999,943	2,822,309
Other Farmer Mac Guaranteed Securities[3]	Off-balance sheet	452,602	500,953
Loans serviced for others	Off-balance sheet	577,264	20,280
Total Farm & Ranch		**$ 18,808,801**	**$ 17,728,792**
Corporate AgFinance:			
Loans	On-balance sheet	$ 1,259,723	$ 1,166,253
AgVantage Securities[1]	On-balance sheet	288,879	359,600
Unfunded loan commitments	Off-balance sheet	145,377	77,654
Total Corporate AgFinance		**$ 1,693,979**	**$ 1,603,507**
Total Agricultural Finance		**$ 20,502,780**	**$ 19,332,299**
Rural Infrastructure Finance:			
Rural Utilities:			
Loans	On-balance sheet	$ 3,094,477	$ 2,801,696
AgVantage Securities[1]	On-balance sheet	3,898,468	3,044,156
LTSPCs and unfunded loan commitments	Off-balance sheet	487,778	512,592
Other Farmer Mac Guaranteed Securities[3]	Off-balance sheet	—	1,169
Total Rural Utilities		**$ 7,480,723**	**$ 6,359,613**
Renewable Energy:			
Loans	On-balance sheet	$ 440,286	$ 219,570
Unfunded loan commitments	Off-balance sheet	47,235	10,600
Total Renewable Energy		**$ 487,521**	**$ 230,170**
Total Rural Infrastructure Finance		**$ 7,968,244**	**$ 6,589,783**
Total		**$ 28,471,024**	**$ 25,922,082**

(1) A type of Farmer Mac Guaranteed Security.
(2) An interest-only Farmer Mac Guaranteed Security retained as part of a structured securitization.
(3) Other categories of Farmer Mac Guaranteed Securities that were sold by Farmer Mac to third parties.

Agricultural Finance

Farmer Mac provides a secondary market for eligible loans in Farmer Mac's Agricultural Finance line of business by (1) purchasing and retaining eligible loans and securities, (2) guaranteeing the payment of principal and interest on securities that represent interests in, or obligations secured by, pools of eligible loans, (3) servicing (including as master servicer) eligible loans, and (4) issuing LTSPCs for designated eligible loans. Farmer Mac is compensated for these activities through net interest income on loans and securities held on balance sheet, guarantee fees earned on securities issued to third parties, servicing fees on securitized loans and loans serviced for others, and commitment fees earned on loans in LTSPCs and on unfunded loan commitments.

Loan Eligibility

To be eligible for the Agricultural Finance line of business, a loan must either:

- be an agricultural mortgage loan (referred to as "Agricultural Finance mortgage loans") that is
  - secured by a fee simple mortgage or a leasehold mortgage with status as a first lien on agricultural real estate (including part-time farms and rural housing) located within the United States; and
  - an obligation of a citizen or national of the United States, an alien lawfully admitted for permanent residence in the United States, or a private corporation or partnership that is majority-owned by U.S. citizens, nationals, or legal resident aliens that, in each case, has training or farming experience that is sufficient to ensure a reasonable likelihood that the loan will be repaid according to its terms; *or*
- be the guaranteed portion of a loan guaranteed by the USDA under the Consolidated Farm and Rural Development Act (7 U.S.C. § 1921 et seq.) (referred to as "USDA Securities").

Farmer Mac's charter authorizes a maximum loan size (adjusted annually for inflation) for an eligible Agricultural Finance mortgage loan secured by more than 2,000 acres of agricultural real estate. That maximum loan size was $17.0 million as of December 31, 2023. The charter does not prescribe a maximum loan size or a total borrower exposure for an eligible Agricultural Finance mortgage loan secured by 2,000 acres or less of agricultural real estate. However, an internal policy approved by Farmer Mac's board of directors limits the cumulative direct credit exposure to any one borrower or group of related borrowers on loans secured by 2,000 acres or less of agricultural real estate to 10% of Farmer Mac's Tier 1 capital ($145.2 million as of December 31, 2023). For Agricultural Finance mortgage loans, eligible agricultural real estate consists of one or more parcels of land, which may be improved by permanently affixed buildings or other structures, that (i) is used for the production of one or more agricultural commodities or products and (ii) either consists of a minimum of five acres or generates minimum annual receipts of $5,000.

As required by Farmer Mac's charter, Farmer Mac has established underwriting, security appraisal, and repayment standards for eligible loans that consider the nature, risk profile, and other differences between different categories of eligible loans. The charter prescribes that the following minimum standards must be applied to all Agricultural Finance mortgage loans:

- provide that no loan with a loan-to-value ratio ("LTV") more than 80% may be eligible;
- require each borrower to demonstrate sufficient cash flow to adequately service the loan;
- require sufficient documentation standards;
- protect the integrity of the appraisal process for any loan; and
- confirm that the borrower is or will be actively engaged in agricultural production.

Underwriting and Collateral Standards - Farm & Ranch

Farmer Mac accepts direct credit exposure to borrowers on Agricultural Finance mortgage loans in its Farm & Ranch reportable operating segment (referred to as "Farm & Ranch loans") through its loan purchases, unfunded loan commitments, LTSPCs, and Farmer Mac Guaranteed Securities that represent interests in, or obligations secured by, pools of eligible Farm & Ranch loans but that are not AgVantage securities ("Farm & Ranch Guaranteed Securities"). Farmer Mac applies credit underwriting standards and methodologies to help assess exposures to Farm & Ranch loans, which may include collateral valuation, financial metrics, and other appropriate borrower financial and credit information.

Farm & Ranch loans typically are required to meet specific underwriting criteria established by Farmer Mac or demonstrate compensating strengths in one or more other underwriting criteria. Farmer Mac relies on the combined expertise of experienced internal agricultural credit underwriters and loan servicers, along with external agricultural loan servicing and collateral valuation contractors, to perform the necessary underwriting, servicing, and collateral valuation functions on Farm & Ranch loans.

USDA Securities are exempted from the credit underwriting, collateral valuation, documentation, and other standards that other loans must meet to be eligible for the secondary market provided by Farmer Mac and are exempted from any diversification and internal credit enhancement that may be required of pools of other eligible loans. Farmer Mac purchases nearly all of its USDA Securities through Farmer Mac II LLC, a subsidiary of Farmer Mac that operates substantially all of the business related to Farmer Mac's USDA Securities.

Underwriting and Collateral Standards - Corporate AgFinance

Farmer Mac accepts direct credit exposure to borrowers on Agricultural Finance mortgage loans in Farmer Mac’s Corporate AgFinance reportable operating segment (referred to as “Corporate AgFinance loans”) through its loan purchases and unfunded commitments. Farmer Mac applies credit underwriting standards and methodologies to help assess exposures to Corporate AgFinance loans, which may include cash flow, leverage, and liquidity assessment, financial metrics analysis, collateral valuation, and other appropriate borrower financial and credit information.

Corporate AgFinance loans tend to be larger and more complex operations than Farm & Ranch loans (generally more than $10 million) and typically are loans made to agribusinesses focused on agriculture production, food and fiber processing, and other supply chain production. The underwriting for loans to agribusinesses typically relies upon enterprise value, meaning the debt is generally secured by all business assets and common stock (in addition to first lien mortgages) of the borrower and the value of the borrowing entity depends on its ability to generate recurring positive cash flow. Enterprise value is the estimated value of the borrower as a going concern, which is estimated using one or more valuation techniques such as: discounted cash flow, cash flow multiples, asset liquidation, or other valuation techniques. Thus, Corporate AgFinance loans often have a different credit risk profile than Farm & Ranch loans. Farmer Mac has implemented methodologies and parameters to help assess credit risk and has established specific underwriting criteria for Corporate AgFinance loans based on the sector, borrower construct, and transaction complexity. Due to the larger loan sizes and different credit risk profiles, Farmer Mac thoroughly analyzes each prospective Corporate AgFinance loan, including assessing the borrower's leverage, cash flows, liquidity, revenue and margin trends, as well as evaluating the borrower's suppliers, customers, market share, and competition. Any underlying weaknesses are assessed and analyzed in conjunction with any compensating strengths. Corporate AgFinance loans also typically require ongoing monitoring of reporting requirements and financial and non-financial covenants. Farmer Mac relies on the experience of internal underwriters with the expertise to analyze large, complex farming operations and agribusiness loans, along with collateral valuation contractors, and legal counsel to perform the necessary diligence to assess the overall credit risk and loan structures of these transactions.

Lenders

Farmer Mac approves lenders into its network of Farm & Ranch loan sellers based on an assessment of the lender's credit profile, which may include factors such as the institution's credit rating, origination history, or financial profile. Most lenders that participate in Farmer Mac's secondary market for Farm & Ranch loans meet prescribed criteria that Farmer Mac establishes for loan-selling counterparties, which typically include the requirement to:

- own a requisite amount of Farmer Mac common stock according to a schedule prescribed for the size and type of institution;
- have, in the judgment of Farmer Mac, the ability and experience to make or purchase and sell Farm & Ranch loans and service those loans in accordance with Farmer Mac's requirements either through the lender's own staff or through contractors and originators, as well as have appropriate internal controls, policies, and procedures;
- maintain a minimum amount of net liquidity or appropriate credit enhancements; and
- enter into a Seller/Servicer Agreement, which requires compliance with the terms of Farmer Mac's Seller/Servicer Guide, including providing representations and warranties about the eligibility of the loans and accuracy of loan data provided to Farmer Mac.

Any lender authorized by the USDA to obtain a USDA guarantee on a loan may participate in Farmer Mac's secondary market for USDA Securities.

Farmer Mac purchases Corporate AgFinance loans and unfunded commitments from a diverse set of lenders that support financing of the agriculture sector. Lenders may be existing Farm & Ranch lenders that have larger, more complex borrowers in their territories, as well as larger financial and non-bank institutions, such as national and regional banks, insurance companies, Farm Credit System institutions, and other non-traditional lending organizations, that structure and originate transactions for larger, more complex farming operations and agribusinesses.

Farmer Mac evaluates each lender that originates Corporate AgFinance loans to assess the experience and capabilities of the lender's ability to originate, structure, distribute, and monitor Corporate AgFinance transactions. In many instances, Farmer Mac will purchase loans and unfunded commitments from lenders that structure and arrange large, syndicated transactions involving numerous lenders that are necessary to support the larger transaction loan size. In these cases, Farmer Mac typically assesses each arranger's capabilities and experience in arranging syndicated loans. Because Corporate AgFinance loans are typically offered to Farmer Mac without or with few representations and warranties, Farmer Mac places a greater emphasis on underwriting and legal documentation due diligence in connection with its purchase of these loans to mitigate risks associated with the transaction, including loan documentation, borrower eligibility, and loan data.

Loan Servicing

Farmer Mac services a sizeable portion of its Agricultural Finance mortgage loan and USDA Securities portfolios, as well as a smaller portfolio of eligible agricultural mortgage loans that are held by an unrelated third party. Farmer Mac also continues to contract with other institutions to undertake most of the servicing responsibilities for the remaining portion of its Agricultural Finance mortgage loans in accordance with Farmer Mac's specified servicing requirements or in accordance with the servicing standards established by the servicing institution if the institution's standards are acceptable to Farmer Mac. For these loans, the servicer may or may not be the same entity as the lender that sold the loans to Farmer Mac. For Farm & Ranch loans for which the servicer is not the originating lender, the originating lender often retains some servicing responsibility, particularly with direct borrower contact, which is referred to as "field servicing." Field servicers may enter into contracts with Farmer Mac's servicers that specify their field servicing responsibilities.

For Farmer Mac's USDA Securities, the lender on each USDA-guaranteed loan is required by regulation to retain the unguaranteed portion of the guaranteed loan, to service the entire underlying guaranteed loan (including the USDA-guaranteed portion of that loan), and to remain mortgagee and/or secured party of record, if applicable. The USDA-guaranteed portion and the unguaranteed portion of the loan are to be secured by the same collateral with equal lien priority. The USDA-guaranteed portion of a loan cannot be paid later than, or in any way be subordinated to, the related unguaranteed portion.

Other Products - Agricultural Finance

AgVantage Securities

Under the AgVantage securities product line, Farmer Mac guarantees and purchases securities issued by lenders and other financial institutions (including financial funds and real estate investment funds) that are secured by pools of eligible loans. Typically, Farmer Mac retains AgVantage securities in its portfolio. Most of the AgVantage securities in Farmer Mac's Agricultural Finance line of business are securities issued by agricultural lenders that are secured by pools of Farm & Ranch loans. The AgVantage securities in the Agricultural Finance line of business also include securities issued by other financial institutions (including financial funds and institutional real estate investors) secured by mortgage loans that generally have different credit profiles, structural characteristics, and loan terms than typical Farm & Ranch loans. The loans serving as collateral for these AgVantage securities require a more comprehensive underwriting that more closely approximates Farmer Mac's underwriting for Corporate AgFinance loans.

Farmer Mac has direct credit exposure to the general credit of the issuers of AgVantage securities and assumes the ultimate credit risk of an issuer default on the AgVantage securities. Before approving an institution as an issuer in an AgVantage transaction, Farmer Mac assesses the issuer's creditworthiness as well as the credit quality and performance of the issuer's loan portfolio and loan underwriting standards. Farmer Mac continues to monitor the counterparty risk assessment on an ongoing basis after the AgVantage security is issued. In addition to being a general obligation of the issuer, all AgVantage securities must be secured by eligible loans or eligible securities guaranteed by Farmer Mac in an amount at least equal to the outstanding principal amount of the issuer's AgVantage securities. As a result, Farmer Mac has indirect credit exposure to the loans or guaranteed securities that are pledged to secure the AgVantage securities, which comprise collateral for Farmer Mac in the event of a default by the issuer.

Loans pledged under AgVantage securities are serviced by the issuers of the securities (or their affiliated servicing institutions) in accordance with these institutions' servicing procedures. Farmer Mac reviews these servicing procedures before purchasing AgVantage securities from the issuer. In AgVantage transactions, the issuer is generally required to remove from the pool of pledged collateral any loan that becomes and remains delinquent in the payment of principal or interest and to replace the delinquent loan with another eligible loan that is current in payment or to pay down the AgVantage securities to maintain the minimum required collateralization level.

For AgVantage securities secured by loans eligible for Farmer Mac's Agricultural Finance line of business, Farmer Mac currently requires the general obligation to be over-collateralized, either by more eligible loans or any of the following types of assets:

- cash;
- securities issued by the U.S. Treasury or guaranteed by an agency or instrumentality of the United States;
- other highly-rated securities; or
- other instruments approved by Farmer Mac.

The required collateralization level for the AgVantage securities secured by Agricultural Finance mortgage loans currently ranges from 103% to 125%. The required collateralization level is determined based on credit factors related to the issuer and the credit profile of the loans serving as collateral, 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 unless mutually agreed by Farmer Mac and the counterparty.

For AgVantage securities that are secured by eligible Agricultural Finance mortgage loans, Farmer Mac requires that the loans meet the minimum standards set forth in the charter for those types of loans with a maximum limit of $75.0 million in cumulative exposure to any one borrower or related borrowers from a single AgVantage issuer.

<u>Guarantees</u>

Farmer Mac offers two credit enhancement alternatives to direct loan purchases for Farm & Ranch loans that allow approved lenders the ability to retain the cash flow benefits of their loans and increase their liquidity and lending capacity: (1) LTSPCs and (2) Farm & Ranch Guaranteed Securities. In LTSPCs and Farm & Ranch Guaranteed Securities, the lender effectively transfers the credit risk on their eligible loans because, through Farmer Mac's commitment to purchase the loan (in the case of LTSPCs) or Farmer Mac's guarantee (in the case of Farm & Ranch Guaranteed Securities), Farmer Mac assumes the ultimate credit risk of borrower defaults on the related loans.

An LTSPC permits the lender to retain loans in its portfolio until such time, if ever, as the lender elects to deliver some or all of the loans covered by the LTSPC to Farmer Mac for purchase. Loans subject to an LTSPC must meet Farmer Mac's standards for eligible loans at the commencement of the LTSPC when Farmer Mac assumes the credit risk on the loans and are serviced by the holders of those loans in accordance with those lenders' servicing procedures, which Farmer Mac reviews before entering into those transactions. As consideration for its assumption of the credit risk on loans covered by an LTSPC, Farmer Mac receives commitment fees payable monthly in arrears. Some LTSPCs contain risk sharing arrangements for pools of loans that provide for the counterparty to absorb up to a specified amount (typically between one percent and three percent of the original principal balance of the loan pool) of any losses incurred on the loans in the pool. At a lender's request, Farmer Mac purchases loans subject to an LTSPC at:

- par if the loans become delinquent for either 90 days or 120 days (depending on the agreement) or are in material non-monetary default, with accrued and unpaid interest on the defaulted loans payable out of any future loan payments or liquidation proceeds; or

- fair value or in exchange for cash or Farm & Ranch Guaranteed Securities (if the loans are not delinquent), in accordance with the applicable agreement.

In Farm & Ranch Guaranteed Securities transactions, Farmer Mac guarantees securities representing interests in eligible Farm & Ranch loans held by a trust or other entity. Farmer Mac guarantees principal and interest payments on the securities in the event of a payment shortfall due to default and either retains these securities or arranges for their sale to third parties. As consideration for its assumption of credit risk on the assets underlying the Farm & Ranch Guaranteed Securities, Farmer Mac receives guarantee fees based on the outstanding principal balance of the securities it guarantees. Some Farm & Ranch Guaranteed Securities transactions include a smaller, subordinate tranche of securities issued to third parties that are not guaranteed by Farmer Mac, which helps to offset Farmer Mac's credit risk on these transactions.

Farmer Mac is obligated under its guarantee on the securities to make payments to investors of interest and principal (including balloon payments), regardless of whether Farmer Mac or the related trust has actually received those scheduled payments. Farmer Mac's guarantee fees typically are collected out of installment payments made on the underlying loans until those loans have been repaid, purchased out of the trust, or otherwise liquidated (generally as a result of default). The aggregate amount of guarantee fees received on Farm & Ranch Guaranteed Securities depends on the amount of those securities outstanding and on the applicable guarantee fee rate, which Farmer Mac's charter caps at 50 basis points (0.50%) per year.

From time to time, Farmer Mac issues and guarantees securities backed by USDA Securities that it has purchased and also guarantees securities issued by Farmer Mac II LLC backed by USDA Securities that it has purchased. Farmer Mac II LLC does not guarantee any USDA Securities it holds or any Farmer Mac Guaranteed USDA Securities issued by Farmer Mac or Farmer Mac II LLC.

Rural Infrastructure Finance

Farmer Mac's charter authorizes the purchase of, and guarantee of securities backed by, loans for electric (including renewable electric energy) or telecommunications facilities by lenders organized as cooperatives to borrowers that have received or are eligible to receive loans under the Rural Electrification Act of 1936 ("REA"). The REA is administered by the Rural Utilities Service ("RUS"), an agency of the USDA. Farmer Mac refers to eligible loans made to an electric distribution facility, an electric generation and transmission facility, or a telecommunications facility as "Rural Utilities loans" and refers to eligible loans made to renewable electric energy facilities as "Renewable Energy loans."

Farmer Mac's Rural Infrastructure Finance line of business encompasses purchases of Rural Utilities loans and Renewable Energy loans and guarantees of securities backed by those loans, as well as LTSPCs for pools of eligible Rural Utilities loans. The vast majority of Farmer Mac's business to date under the Rural Infrastructure Finance line of business has involved Rural Utilities loans made to electric facilities (primarily electric distribution cooperatives and electric generation and transmission cooperatives). During 2023, Farmer Mac purchased $232.5 million of loans to telecommunications companies that provide wireless, cable, fiber transport, and broadband services to rural America as part of its strategic initiative to provide further support for the telecommunications industry. Also during 2023, Farmer Mac purchased

$273.5 million of Renewable Energy loans as part of its strategic initiative to support rural renewable energy projects.

Underwriting and Collateral Standards

Farmer Mac's charter does not specify minimum underwriting criteria for eligible Rural Utilities or Renewable Energy loans. To manage Farmer Mac's credit risk, to mitigate the risk of loss from borrower defaults, and to provide guidance for the management, administration, and conduct of underwriting to participants in the Rural Infrastructure Finance line of business, Farmer Mac has adopted credit underwriting standards that vary by loan product and by loan type. These standards are based on industry practices for similar Rural Utilities and Renewable Energy loans and are designed to assess the creditworthiness of the borrower, as well as the risk to Farmer Mac.

For Rural Utilities loans, Farmer Mac reviews lenders' credit submissions and analyzes borrowers' audited financial statements and financial and operating reports to confirm that loans meet Farmer Mac's underwriting standards for Rural Utilities loans. It is customary with these loans for the lender or lender group to take a security interest in substantially all of the borrower's assets. When Farmer Mac purchases a Rural Utilities loan with a pledge of all assets and a lender also has a lien on all assets, Farmer Mac verifies that a lien accommodation will result in either a shared first lien or a first lien in favor of Farmer Mac. When debt indentures are used, Farmer Mac determines if available collateral is adequate to support the loan program and Farmer Mac's investment. Farmer Mac also purchases unsecured Rural Utilities loans (primarily electric generation and transmission loans) that meet Farmer Mac's underwriting standards for unsecured Rural Utilities loans.

For a Renewable Energy loan, Farmer Mac has direct credit exposure to the related standalone renewable energy project. These projects are typically financed on a non-recourse or limited recourse basis and underwritten on a projection basis with significant reliance placed on assumptions used in each project’s analysis. Farmer Mac has implemented methodologies and parameters to assess credit risk and has established specific underwriting criteria based on the project and transaction construct and complexity. Farmer Mac thoroughly analyzes each prospective Renewable Energy loan. Farmer Mac performs quantitative assessments typically focused on projected debt service requirements, term and amortization review, interest rate sensitivity, and collateral analysis. Farmer Mac also performs qualitative assessments typically focused on the project sponsor's credentials and experience, off-take (cash flow) considerations, and concentration and other market considerations. Farmer Mac also typically reviews the project contracts and agreements for each Renewable Energy loan. Renewable Energy loans are typically secured by a first lien on the borrower's project assets, an assignment of the project contracts and agreements, a land or leasehold interest, and in certain cases, a pledge of the equity interests in the borrower entity. Farmer Mac's enforcement rights in any collateral securing a Renewable Energy loan may be subject to tax equity interests in the borrower's renewable energy project.

Lenders and Loan Servicing

Farmer Mac's charter requires loans in Farmer Mac's Rural Infrastructure Finance line of business to involve a lender organized as a cooperative. Farmer Mac does not directly service the Rural Utilities or Renewable Energy loans held in its portfolio. Typically, these loans are serviced by the lender or other organization designated by Farmer Mac that has experience in servicing loans to utilities and renewable energy providers and in the context of project finance, as applicable.

Other Products - Rural Infrastructure Finance

AgVantage Securities

Farmer Mac's portfolio of AgVantage securities in its Rural Infrastructure Finance line of business includes securities issued by cooperative lenders that are secured by pools of Rural Utilities loans. For these AgVantage securities, Farmer Mac requires:

- the counterparty issuing the general obligation to have a credit rating from a nationally-recognized statistical rating organization ("NRSRO") that is at least investment grade, or be of comparable creditworthiness as determined through Farmer Mac's analysis; and
- the collateralization (consisting of current, performing loans) to be maintained at the contractually prescribed level, in an amount at least equal to the outstanding principal amount of the security.

Although Farmer Mac has only indirect credit exposure on the Rural Utilities loans pledged to secure AgVantage securities, the same underwriting standards that apply to loans made to Rural Utilities borrowers on which Farmer Mac assumes direct credit exposure also apply to loans made to Rural Utilities borrowers that secure the AgVantage securities. Farmer Mac's charter does not prescribe a maximum loan size or a total borrower exposure for an eligible Rural Utilities loan, but Farmer Mac's current limit for AgVantage transactions is $75.0 million for cumulative loan exposure to any one borrower or related borrowers (with the amount of any direct exposure to a borrower not counting towards the $75.0 million limit).

COMPETITION

Farmer Mac is the only federally-chartered corporation established to provide a secondary market for agricultural mortgage loans, rural infrastructure loans, and USDA Securities, but faces competition from other entities that purchase, retain, securitize, or provide financing for the types of assets eligible for Farmer Mac's secondary market activities. These entities include commercial and investment banks, insurance companies, other FCS institutions, financial funds, and certain government programs. Farmer Mac also competes indirectly with originators of eligible loans that would prefer to retain the loans they originate rather than sell them into the secondary market. Farmer Mac is able to compete to acquire eligible loans due to the variety of products it offers and its ability to offer competitive funding structures and pricing to its customers. This enables Farmer Mac to provide flexible financing options and products designed to meet the varied needs of lending institutions related to capital requirements, liquidity, credit risk, and management of sector and geographic concentrations and borrower exposure limits. The relative competitiveness of Farmer Mac's loan rates and Farmer Mac's ability to develop business with lending institutions are affected by many factors, including:

- the overall supply of capital available to agricultural and rural infrastructure borrowers;
- the types and variety of products offered by Farmer Mac's competitors to meet the needs of Farmer Mac's customer base;
- changes in the levels of available capital and liquidity of lending institutions;
- the existence of alternative sources of funding and credit enhancement for lending institutions;
- the rate of growth in the market for eligible loans; and
- demand for Farmer Mac's products.

Because Farmer Mac's charter limits Farmer Mac's business to secondary-market activities, Farmer Mac's competitive position is affected by the willingness of originators to offer eligible loans for sale in the secondary market or to utilize Farmer Mac for funding syndicated or participated loans. The charter's limits on loan size for some Agricultural Finance mortgage loans, as well as the types of loans that are eligible for Farmer Mac's lines of business, also affect Farmer Mac's competitive position. For more information on government regulation of Farmer Mac, see "Business—Government Regulation of Farmer Mac."

Farmer Mac's ability to obtain competitive funding in the debt markets is essential to its ability to maintain its relative position with its customers. As a result, competition for debt investors with other debt-issuing institutions, such as the FCS, Federal Home Loan Banks, Fannie Mae, Freddie Mac, and highly-rated financial institutions, can affect the price and volume at which Farmer Mac issues debt and therefore its ability to offer savings to customers in the form of competitive products.

CAPITAL AND CORPORATE GOVERNANCE

Farmer Mac's charter prescribes the company's basic capital and corporate governance structure, as described below. The charter authorizes Farmer Mac to issue two classes of voting common stock, each of which elects one-third of Farmer Mac's 15-person board of directors. The charter also authorizes Farmer Mac to issue non-voting common stock.

- Presidential appointments. Five members of Farmer Mac's 15-member board of directors are individuals who meet the qualifications specified in the charter and are appointed by the President of the United States with the advice and consent of the United States Senate (one of whom is designated as the chair of the board of directors). These appointed directors serve at the pleasure of the President of the United States with no set term.

- Class A voting common stock. The charter restricts ownership of Farmer Mac's Class A voting common stock to banks, insurance companies, and other financial institutions or similar entities that are not institutions of the FCS. The charter also provides that five members of Farmer Mac's 15-member board of directors are elected by a plurality of the votes of the Class A stockholders each year. The charter limits the amount of Class A voting common stock that any one holder may own to no more than 33% of the outstanding shares of Class A voting common stock. Farmer Mac is not aware of any regulation applicable to non-FCS financial institutions that requires a minimum investment in Farmer Mac's Class A voting common stock or that prescribes a maximum investment amount lower than the 33% limit set forth in the charter. Farmer Mac's Class A voting common stock is listed on the New York Stock Exchange under the symbol AGM.A.

- Class B voting common stock. The charter restricts ownership of Farmer Mac's Class B voting common stock to FCS institutions and also provides that five members of Farmer Mac's 15-member board of directors are elected by a plurality of the votes of the Class B stockholders each year. The charter contains no restrictions on the maximum number or percentage of outstanding shares of Class B voting common stock that any one holder may own, and Farmer Mac is not aware of any regulation applicable to FCS institutions that requires a minimum investment in its Class B voting common stock or that prescribes a maximum amount. Farmer Mac's Class B voting common stock, which has a limited market and trades infrequently, is not listed or quoted on any exchange or other quotation system, and Farmer Mac is not aware of any publicly available quotations or prices for this class of common stock.

- Class C non-voting common stock. The charter does not impose any ownership restrictions on Farmer Mac's Class C non-voting common stock, so shares of this class are freely transferable. Farmer Mac uses Class C non-voting common stock for awards of equity-based compensation to officers, directors, and employees as part of the company's compensation programs. Holders of the Class C non-voting common stock do not vote on the election of directors or any other matter. Farmer Mac's Class C non-voting common stock is listed on the New York Stock Exchange under the symbol AGM.

The dividend and liquidation rights of all three classes of Farmer Mac's common stock are the same. Dividends may be paid on Farmer Mac's common stock only when, as, and if declared by Farmer Mac's board of directors in its sole discretion, subject to compliance with applicable capital requirements and the payment of dividends on any outstanding preferred stock issued by Farmer Mac. Upon liquidation, dissolution, or winding up of the business of Farmer Mac, after payment and provision for payment of outstanding debt of Farmer Mac, the holders of shares of Farmer Mac's currently outstanding 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C ("Series C Preferred Stock"), 5.700% Non-Cumulative Preferred Stock, Series D ("Series D Preferred Stock"), 5.750% Non-Cumulative Preferred Stock, Series E ("Series E Preferred Stock"), 5.250% Non-Cumulative Preferred Stock, Series F ("Series F Preferred Stock"), 4.875% Non-Cumulative Preferred Stock, Series G ("Series G Preferred Stock"), and any other preferred stock then outstanding, would be paid at par value out of assets available for distribution, plus all declared and unpaid dividends, before the holders of shares of common stock received any payment. See also "Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities" for more information about Farmer Mac's common stock, and "Business—Financing—Equity Issuance" for more information about Farmer Mac's common stock and preferred stock.

Unlike some other GSEs such as other FCS institutions and the Federal Home Loan Banks, Farmer Mac is not structured as a cooperative owned exclusively by member institutions and established to provide services exclusively to its members. Rather, Farmer Mac, as a publicly-traded corporation, has a broader base of stockholders, including those who do not directly participate in the secondary market provided by Farmer Mac. Farmer Mac therefore seeks to fulfill its mission of serving the financing needs of rural America in a way that is consistent with providing a return on the investment of its stockholders.

Farmer Mac generally requires financial institutions to own a requisite amount of Farmer Mac common stock, based on the size and type of institution, to sell Agricultural Finance mortgage loans to Farmer Mac. As a result of this requirement, coupled with the ability of holders of Class A and Class B voting common stock to elect two-thirds of Farmer Mac's board of directors, Farmer Mac regularly conducts business with "related parties," including institutions affiliated with members of Farmer Mac's board of directors and institutions that own large amounts of Farmer Mac's voting common stock. Farmer Mac has adopted a Code of Business Conduct and Ethics and related corporate policies that govern any conflicts of interest that may arise in these transactions. Farmer Mac also requires that any transactions with related parties be conducted in the ordinary course of business, with terms and conditions comparable to those available to any other counterparty not related to Farmer Mac. For more information about related party transactions, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Related Party Transactions" and Note 3 to the consolidated financial statements.

Capital

Farmer Mac's charter establishes three capital standards for Farmer Mac – minimum capital, critical capital, and risk-based capital. Farmer Mac must comply with the higher of the minimum capital requirement and the risk-based capital requirement. Also, in accordance with the applicable FCA regulation on capital planning, Farmer Mac's board of directors oversees a policy that requires Farmer Mac to maintain a sufficient level of Tier 1 capital and restricts dividends and bonus payments if Farmer Mac's Tier 1 capital falls below specified thresholds. For a discussion of Farmer Mac's capital requirements and its actual capital levels, as well as FCA's role in the establishment and monitoring of those requirements and levels, see "Business—Government Regulation of Farmer Mac—Capital Standards," "Management's Discussion and Analysis of Financial Condition and Results of Operations—Balance Sheet Review—Equity," and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Capital Requirements."

Regulatory Oversight

Farmer Mac's charter assigns to FCA, acting through the separate Office of Secondary Market Oversight ("OSMO") within FCA, the responsibility for the examination of Farmer Mac and the general supervision of the safe and sound performance of the powers, functions, and duties vested in Farmer Mac by the charter. The charter also authorizes FCA, acting through OSMO, to apply its general enforcement powers to Farmer Mac. Farmer Mac's charter requires an annual examination of the financial transactions of Farmer Mac and authorizes FCA to assess Farmer Mac for the cost of FCA's regulatory activities, including the cost of any examination. Farmer Mac is also required to file quarterly reports of condition with OSMO. As a publicly-traded corporation, Farmer Mac also must comply with the periodic reporting requirements of the SEC. For a more detailed discussion of Farmer Mac's regulatory and governmental relationships, see "Business—Government Regulation of Farmer Mac."

HUMAN CAPITAL

As of December 31, 2023, Farmer Mac employed 185 people, with 36 new employees hired during the year resulting in a net increase of 27 employees (17%) compared to year-end 2022. Farmer Mac primarily employs full-time employees to meet its business needs as it grows and evolves while supplementing human capital needs with part-time employees (including interns) and independent contractors and consultants as needed.

Farmer Mac has experienced a geographic evolution in its workforce since 2020 and now employs personnel in 27 states across the United States. This represents a 73% increase in geographic diversity (by state) since the start of the COVID-19 pandemic in early 2020. As of December 31, 2023, 95 full-time employees were located in the Washington, D.C. area, 28 full-time employees were located in the Johnston, Iowa area, and 62 full-time employees worked on a fully remote basis in other parts of the United States.

Workplace Culture

Farmer Mac continues to focus on how and where people work and to reassess physical workspace needs and operates under a "Presence with Purpose" model. This hybrid work approach, which is grounded in the three core principles of community, collaboration, and communication, relies on managers and leaders to consider their unique team circumstances and determine an appropriate cadence for purposeful inperson presence. This has allowed leadership to leverage the collaborative benefits that cannot be fully replicated remotely while still being flexible with the unique needs of each team and employee. To ensure continuity in regular communication, Farmer Mac has continued to reinforce employees' access to secure digital meeting platforms, and its senior executive team has continued to lead regular meetings of all employees to share pertinent information on Farmer Mac's business and operations and to provide a forum for discussing issues. In 2023, Farmer Mac was awarded a Top Workplaces USA national award and an industry award in financial services. Farmer Mac also received six Top Workplaces USA cultural excellence awards in 2023 in the categories of innovation, employee appreciation, leadership, compensation & benefits, employee well being, and professional development.

Compensation & Benefits

As a financial services organization, Farmer Mac must attract and retain a highly skilled workforce in an often competitive employment environment. Farmer Mac uses traditional methods to attract and retain talent, such as competitive salaries and benefits that include:

- a robust paid time off program (up to 5 weeks of vacation, 2 weeks of sick leave, 11 paid holidays, 6 weeks of pregnancy leave, 6 weeks of parental leave, and 8 hours of leave to volunteer for community or charitable service activities);
- an "equity for all" program in which all employees are eligible to receive annual grants of equity-based compensation;
- a group health plan with all premiums paid by Farmer Mac;
- a 401(k) plan that provides for both voluntary employee contributions and employer contributions at the levels described in Note 11 to the consolidated financial statements;
- a self-funded short-term disability benefit that provides varying percentages of base salary payments through the time of eligibility for long-term disability insurance coverage;
- group term life insurance and long-term disability insurance with all premiums paid by Farmer Mac;
- pre-tax dependent care reimbursement;
- partially-funded health savings accounts;
- access to group rates for legal services insurance, additional life and disability insurance, and pet insurance; and
- professional and career development opportunities and programs.

Talent Acquisition and Development

Farmer Mac is committed to the professional and career development of all employees. "Farmer Mac LEARN" is a program that Farmer Mac launched in 2022 to provide a comprehensive suite of learning and development services to maximize the learning effectiveness in the business. Farmer Mac LEARN is deployed in a blended learning fashion and is structured around six strategic LEARN Academies to enable effective learning and career development. The LEARN Academies were introduced in 2023 and include:

- New Hire Academy
- Skills Academy
- Leadership Academy
- Business Academy
- Ethics & Compliance Academy
- IT and Cybersecurity Academy

Each Academy is structured around learning paths aligned to each employee's professional level, role, and career trajectory. Farmer Mac continues to invest in digital learning platforms to support the learning needs of the employees and business, while also leveraging internal subject matter expertise to elevate learning offerings. Farmer Mac also continues to offer an education assistance plan for employees with at least one year of full-time employment.

As part of its workforce strategy, Farmer Mac is building intern, early career, and talent pipelines through partnership with academic institutions, community organizations, and business partners. Farmer Mac also places strategic focus on succession planning. Detailed succession plans are crafted in partnership with key leaders in the business to identify and develop high potential leaders to promote career readiness for expanded responsibilities and roles in Farmer Mac.

Farmer Mac experienced a 6.4% turnover rate in 2023, which was down from 12.3% in 2022, despite a highly competitive employment market.

Philanthropy

Farmer Mac's mission to serve agricultural and rural communities, as well as philanthropic activities undertaken in support of its mission, provide Farmer Mac an advantage in its effort to attract and retain talent. Farmer Mac's philanthropic philosophy centers on supporting agriculture and rural communities and supporting the next generation of farmers and ranchers and financial professionals, including in the communities where Farmer Mac's employees live.

Code of Business Conduct and Ethics

Farmer Mac's onboarding program includes a mandatory compliance session for every new hire and contract consultant within their first week. All employees also take annual training on and recertification of Farmer Mac's Code of Business Conduct and Ethics, which encompasses the following core principles: (1) promoting a safe workplace and a respectful and inclusive culture, (2) conducting business lawfully, fairly, and objectively, (3) communicating responsibly and protecting information, (4) conducting business diligently and being a good corporate citizen, and (5) how to report actual or suspected misconduct. Farmer Mac's Code of Business Conduct and Ethics was refreshed in May 2023 while maintaining this principles-based approach. Farmer Mac's Code of Business Conduct and Ethics is available at www.farmermac.com and is not incorporated by reference into this report.

Diversity, Equity, and Inclusion

Farmer Mac's diversity, equity, and inclusion ("DEI") council was formed in late 2020 at the direction of Farmer Mac's board of directors and senior executives. In 2023, Farmer Mac's DEI council, with support from external consultants, continued to assess the council's objectives and focused its DEI efforts on refining its three-year plan. This included leveraging regular internal Farmer Mac communications to inform and educate personnel on diversity, equity, and inclusion matters and engage in company-wide philanthropic efforts with a focus on inclusion.

AVAILABLE INFORMATION

Farmer Mac makes available free of charge, through the "Investors" section of its internet website at www.farmermac.com, copies of materials it files with, or furnishes to, the SEC, including its Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements, and any amendments to those filings, as soon as reasonably practicable after electronically filing those materials with, or furnishing those materials to, the SEC. All references to www.farmermac.com in this report are inactive textual references only. The information contained on Farmer Mac's website is not incorporated by reference into this report.

FUNDING OF GUARANTEE AND LTSPC OBLIGATIONS

The main sources of funding for the payment of Farmer Mac's obligations under its guarantees and LTSPCs are the fees Farmer Mac receives for its guarantees and commitments, net effective spread, proceeds of debt issuances, loan repayments, and maturities of AgVantage securities. Farmer Mac has traditionally satisfied its obligations under LTSPCs and its guarantees by purchasing defaulted loans out of the LTSPCs or from related securitization trusts under the terms of the respective agreements governing the LTSPC or guaranteed securities. Farmer Mac typically recovers a significant portion of the value of defaulted loans purchased either through borrower payments, loan payoffs, payments by third parties, or foreclosure and sale of the property securing the loans. Net credit losses/(gains) arising from Farmer Mac's guarantees and commitments include charge-offs/(recoveries) against its allowance for losses, gains and losses on the sale of real estate acquired through foreclosure (known as "real estate owned" or "REO"), and fair value adjustments of REOs held.

Farmer Mac's charter requires Farmer Mac to maintain in its accounts a portion of the guarantee fees it receives from its guarantee activities as a reserve against losses. As of December 31, 2023, this reserve against losses arising from Farmer Mac's guarantee activities was $129.6 million. Farmer Mac calculates the amount of this statutorily required reserve against losses arising from its guarantee activities based on the credit risk component of guarantee fees received on all securities it guarantees, including AgVantage securities. This amount does not represent expected credit losses and does not directly relate to either the allowance for loan losses or the reserve for losses in Farmer Mac's consolidated balance sheets. Rather, this is the amount of capital that must be exhausted before Farmer Mac may issue obligations to the U.S. Treasury against the $1.5 billion that Farmer Mac is statutorily authorized to borrow from the U.S. Treasury to fulfill its guarantee obligations. That borrowing authority is not intended to be a routine funding source and has never been used. For a more detailed discussion of Farmer Mac's borrowing authority from the U.S. Treasury, see "Business—Farmer Mac's Authority to Borrow from the U.S. Treasury."

Farmer Mac's total outstanding guarantees and LTSPCs exceed the total of: (1) the amount held as an allowance for losses, (2) the amount maintained as a reserve against losses arising from guarantee activities, and (3) the amount Farmer Mac may borrow from the U.S. Treasury. However, Farmer Mac does not expect its future payment obligations under its guarantees and LTSPCs to exceed amounts available to satisfy those obligations, which includes access to the underlying collateral in the event of default. For information about Farmer Mac's allowance for losses, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees" and Note 2(h), Note 8, and Note 12 to the consolidated financial statements.

FINANCING

Debt Issuance

Farmer Mac's charter authorizes Farmer Mac to issue debt obligations to purchase eligible loans and securities, USDA Securities, and to maintain reasonable amounts of liquid investments to maintain an adequate supply of liquidity. Farmer Mac funds its purchases of eligible program assets and liquidity investment assets primarily by issuing debt obligations of various maturities in the public capital markets. Farmer Mac also issues debt obligations to obtain funds to finance its obligations under guarantees and LTSPCs. Farmer Mac's debt obligations include discount notes and medium-term notes, including callable medium-term notes, all of which are unsecured general obligations of Farmer Mac. Discount notes have original maturities of 1 year or less. Medium-term notes generally have maturities of 0.5 years to 25.0 years.

The interest and principal on Farmer Mac's debt obligations are not guaranteed by, and do not constitute debts or obligations of, FCA, the United States, or any agency or instrumentality of the United States other than Farmer Mac. Farmer Mac is an institution of the FCS but is not liable for any debt or obligation of any other institution of the FCS. Likewise, neither the FCS nor any other individual institution of the FCS is liable for any debt or obligation of Farmer Mac. Income to the purchaser of a Farmer Mac discount note or medium-term note is not exempt under federal law from federal, state, or local taxation. Farmer Mac's discount notes and medium-term notes are not currently rated by an NRSRO.

Farmer Mac invests the proceeds of its debt issuances in eligible program asset purchases, Farmer Mac Guaranteed Securities, and liquidity investment assets in accordance with policies established by its board of directors that comply with Farmer Mac's Liquidity and Investment Regulations, which establish limitations on asset class, dollar amount, issuer concentration, and credit quality. Farmer Mac's regular debt issuance supports its access to the capital markets, and Farmer Mac's liquidity investment assets provide an alternative source of funds should market conditions be unfavorable.

For more information about the Liquidity and Investment Regulations, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources." For more information about Farmer Mac's outstanding investments and indebtedness, see Note 4 and Note 7 to the consolidated financial statements.

Equity Issuance

Farmer Mac's charter authorizes Farmer Mac to issue voting common stock, non-voting common stock, and non-voting preferred stock. Farmer Mac may obtain additional capital from future issuances of common stock and preferred stock.

<u>Common Stock</u>

Only banks, other financial entities, insurance companies, and institutions of the FCS may hold voting common stock. No holder of Class A voting common stock may directly or indirectly be a beneficial owner of more than 33% of the outstanding shares of Class A voting common stock. There are no restrictions on the maximum number or percentage of outstanding shares of Class B voting common stock that may be held by an eligible stockholder. No ownership restrictions apply to Class C non-voting common stock, and those securities are freely transferable.

The dividend rights of all three classes of Farmer Mac's common stock are the same, and dividends may be paid on common stock only when, as, and if declared by Farmer Mac's board of directors in its sole discretion, subject to compliance with applicable capital requirements and the payment of dividends on outstanding preferred stock. Upon liquidation, dissolution, or winding up of the business of Farmer Mac, after payment and provision for payment of outstanding debt of Farmer Mac, the holders of shares of preferred stock would be paid at par value out of assets available for distribution, plus all declared and unpaid dividends, before the holders of shares of common stock received any payment.

As of December 31, 2023, the following shares of Farmer Mac common stock were outstanding:

- 1,030,780 shares of Class A voting common stock;
- 500,301 shares of Class B voting common stock; and
- 9,310,872 shares of Class C non-voting common stock.

Except for the period from March 16, 2020 to March 10, 2021, Farmer Mac has had a common stock repurchase program in place since third quarter 2015. In March 2023, Farmer Mac's board of directors extended the expiration date of the repurchase program to March 2025 on the same terms and with a remaining authorization of up to $9.8 million in stock repurchases. As of December 31, 2023, 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.

The following table presents the dividends declared on Farmer Mac's common stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Holders Of Record As Of	Date Paid
February 22, 2023	$1.10	March 16, 2023	March 31, 2023
May 3, 2023	$1.10	June 16, 2023	June 30, 2023
August 9, 2023	$1.10	September 15, 2023	September 29, 2023
November 8, 2023	$1.10	December 15, 2023	December 29, 2023
February 21, 2024	$1.40	March 15, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on March 28, 2024.

Farmer Mac's ability to declare and pay common stock dividends could be restricted if it were to fail to comply with applicable capital requirements. See Note 9 to the consolidated financial statements and "Business—Government Regulation of Farmer Mac—Capital Standards."

<u>Preferred Stock</u>

No ownership restrictions apply to any preferred stock issued by Farmer Mac, and those securities are freely transferable. As of December 31, 2023, the following shares of Farmer Mac preferred stock were outstanding:

- 3,000,000 shares of Series C Preferred Stock, all of which were issued in June 2014;
- 4,000,000 shares of Series D Preferred Stock, all of which were issued in May 2019;
- 3,180,000 shares of Series E Preferred Stock, all of which were issued in May 2020;
- 4,800,000 shares of Series F Preferred Stock, all of which were issued in August 2020; and

- 5,000,000 shares of Series G Preferred Stock, all of which were issued in May 2021.

The Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, and Series G Preferred Stock, (collectively, "Outstanding Preferred Stock") each has a par value of $25.00 per share and an initial liquidation preference of $25.00 per share. Since each of their respective issuances, Farmer Mac has not issued any more shares of any series of Outstanding Preferred Stock. Each series of Outstanding Preferred Stock ranks senior to Farmer Mac's outstanding Class A voting common stock, Class B voting common stock, Class C non-voting common stock, and any other common stock of Farmer Mac issues in the future.

The Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, and Series G Preferred Stock pay an annual dividend rate fixed at 5.700%, 5.750%, 5.250%, and 4.875%, respectively, for the life of the securities. The Series C Preferred Stock pays an annual dividend rate of 6.000% from the date of issuance to and including the quarterly payment date on July 17, 2024 and thereafter at a floating rate equal to three-month LIBOR plus 3.260%, which Farmer Mac expects will be converted to the Term Secured Overnight Financing Rate published by CME Group Benchmark Administration, Ltd., plus a spread adjustment based on the tenor of the securities, if not redeemed prior to that payment date. Dividends on all series of Outstanding Preferred Stock are non-cumulative, so if the board of directors has not declared a dividend before the applicable dividend payment date for any dividend period, the dividend will not be paid or accumulate, and Farmer Mac will not be obligated to pay dividends for that dividend period, whether or not dividends on any series of Outstanding Preferred Stock are declared for any future dividend period. Farmer Mac may pay dividends on the Outstanding Preferred Stock without paying dividends on any class or series of stock Farmer Mac may issue in the future that ranks junior to the Outstanding Preferred Stock.

The Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, and Series G Preferred Stock rank equally with each other and will rank equally with any other class or series of stock Farmer Mac may issue in the future of equal priority as to dividends and upon liquidation. Farmer Mac has the right, but not the obligation, to redeem some or all of the issued and outstanding shares of Series C Preferred Stock on and any time after July 18, 2024, the Series D Preferred Stock on and after July 17, 2024, the Series E Preferred Stock on and after July 17, 2025, the Series F Preferred Stock on and after October 17, 2025, and the Series G Preferred Stock on and any time after July 17, 2026, all at a price equal to the then-applicable liquidation preference. Any redemption date for the Series D, Series E, Series F, or Series G Preferred Stock must be a scheduled quarterly dividend payment date. The Outstanding Preferred Stock is considered Tier 1 capital for Farmer Mac. For more information on Farmer Mac's capital requirements, see "Business—Government Regulation of Farmer Mac—Capital Standards."

The following table presents the dividends declared and paid on Series C Preferred Stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 22, 2023	$0.3750	January 18, 2023	April 17, 2023	April 17, 2023
May 3, 2023	$0.3750	April 18, 2023	July 17, 2023	July 17, 2023
August 9, 2023	$0.3750	July 18, 2023	October 17, 2023	October 17, 2023
November 8, 2023	$0.3750	October 18, 2023	January 17, 2024	January 17, 2024
February 21, 2024	$0.3750	January 18, 2024	April 17, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on April 17, 2024.

The following table presents the dividends declared and paid on Series D Preferred Stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 22, 2023	$0.35625	January 18, 2023	April 17, 2023	April 17, 2023
May 3, 2023	$0.35625	April 18, 2023	July 17, 2023	July 17, 2023
August 9, 2023	$0.35625	July 18, 2023	October 17, 2023	October 17, 2023
November 8, 2023	$0.35625	October 18, 2023	January 17, 2024	January 17, 2024
February 21, 2024	$0.35625	January 18, 2024	April 17, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on April 17, 2024.

The following table presents the dividends declared and paid on Series E Preferred Stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 22, 2023	$0.359375	January 18, 2023	April 17, 2023	April 17, 2023
May 3, 2023	$0.359375	April 18, 2023	July 17, 2023	July 17, 2023
August 9, 2023	$0.359375	July 18, 2023	October 17, 2023	October 17, 2023
November 8, 2023	$0.359375	October 18, 2023	January 17, 2024	January 17, 2024
February 21, 2024	$0.359375	January 18, 2024	April 17, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on April 17, 2024.

The following table presents the dividends declared and paid on Series F Preferred Stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 22, 2023	$0.3281250	January 18, 2023	April 17, 2023	April 17, 2023
May 3, 2023	$0.3281250	April 18, 2023	July 17, 2023	July 17, 2023
August 9, 2023	$0.3281250	July 18, 2023	October 17, 2023	October 17, 2023
November 8, 2023	$0.3281250	October 18, 2023	January 17, 2024	January 17, 2024
February 21, 2024	$0.3281250	January 18, 2024	April 17, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on April 17, 2024.

The following table presents the dividends declared and paid on Series G Preferred Stock during and after 2023:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 22, 2023	$0.3046875	January 18, 2023	April 17, 2023	April 17, 2023
May 3, 2023	$0.3046875	April 18, 2023	July 17, 2023	July 17, 2023
August 9, 2023	$0.3046875	July 18, 2023	October 17, 2023	October 17, 2023
November 8, 2023	$0.3046875	October 18, 2023	January 17, 2024	January 17, 2024
February 21, 2024	$0.3046875	January 18, 2024	April 17, 2024	*

* The dividend declared on February 21, 2024 is scheduled to be paid on April 17, 2024.

FARMER MAC'S AUTHORITY TO BORROW FROM THE U.S. TREASURY

Farmer Mac is authorized 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. Farmer Mac's charter provides that the U.S. Treasury is required to purchase Farmer Mac's debt obligations up to the authorized limit if Farmer Mac certifies that:

- a portion of the guarantee fees assessed by Farmer Mac has been set aside as a reserve against losses arising out of Farmer Mac's guarantee activities in an amount determined by Farmer Mac's board of directors to be necessary and such reserve has been exhausted (that amount was $129.6 million as of December 31, 2023); and
- the proceeds of such obligations are needed 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. Farmer Mac would be required to repurchase any of its debt obligations held by the U.S. Treasury within a "reasonable time." As of December 31, 2023, Farmer Mac had not used this borrowing authority and does not expect to use this borrowing authority in the future.

The United States government does not guarantee payments due on securities guaranteed by Farmer Mac, funds invested in the equity or debt securities of Farmer Mac, any dividend payments on shares of Farmer Mac stock, or the profitability of Farmer Mac.

GOVERNMENT REGULATION OF FARMER MAC

General

Farmer Mac was created by federal statute in 1988 in the aftermath of the collapse of the agricultural credit delivery system. Farmer Mac's primary committees of jurisdiction in Congress – the Committee on Agriculture of the U.S. House of Representatives and the U.S. Senate Committee on Agriculture, Nutrition and Forestry – added requirements for Farmer Mac that had not been included in any of the other statutes establishing other GSEs. Unlike the other existing GSEs at the time, Farmer Mac was required to be regulated by an independent regulator, FCA, which has the authority to regulate Farmer Mac's safety and soundness. The statute creating Farmer Mac expressly requires that eligible Farm & Ranch loans meet minimum credit and appraisal standards that represent sound loans to profitable businesses. The enabling legislation also did not contain a specific federal securities law exemption, which had the effect of requiring Farmer Mac to comply with the periodic reporting requirements of the SEC, including filing annual and quarterly reports on the financial status of Farmer Mac and current reports when there are significant developments. Farmer Mac's charter also requires offerings of securities backed by eligible loans and guaranteed by Farmer Mac to be registered under the Securities Act of 1933 and related regulations (collectively, "Securities Act"), unless an exemption for an offering is available that is not based on Farmer Mac's status as an instrumentality of the United States.

Since Farmer Mac's creation, Congress has amended Farmer Mac's charter five times:

- in 1990 to authorize Farmer Mac to purchase, and guarantee securities backed by, USDA Securities;
- in 1991 to clarify Farmer Mac's authority to purchase its guaranteed securities, establish OSMO as Farmer Mac's financial regulator, and set minimum regulatory capital requirements for Farmer Mac;
- in 1996 to remove certain barriers to and restrictions on Farmer Mac's operations to be more competitive (e.g., allowing Farmer Mac to buy loans directly from lenders and issue guaranteed securities representing 100% of the principal of the purchased loans and modifying capital requirements);
- in 2008 to authorize Farmer Mac to purchase, and guarantee securities backed by, loans or interests in loans by lenders organized as cooperatives to borrowers to finance electrification and telecommunications systems in rural areas; and
- in 2018 to expand the acreage exception to agricultural mortgage loan amount limitation from 1,000 acres to 2,000 acres, subject to FCA's feasibility assessment (which was completed in June 2019), and to repeal obsolete provisions and make technical corrections.

Farmer Mac's authorities and regulatory structure were not revised by legislation adopted in 2008 to regulate other GSEs.

Office of Secondary Market Oversight (OSMO)

As an institution of the FCS, Farmer Mac (including its subsidiaries) is subject to the regulatory authority of FCA. Farmer Mac's charter assigns to FCA, acting through OSMO within FCA, the responsibility for the examination of Farmer Mac and the general supervision of the safe and sound performance of the powers, functions, and duties vested in Farmer Mac by its charter. The charter also authorizes FCA, acting through OSMO, to apply its general enforcement powers to Farmer Mac. Farmer Mac (including its subsidiaries) is the only entity regulated by OSMO, which was created as a separate office in recognition of the different role that Farmer Mac plays in providing a secondary market, as compared to the roles of other FCS institutions as primary lenders. The Director of OSMO is selected by and reports to the FCA board.

Farmer Mac's charter requires an annual examination of the financial transactions of Farmer Mac and authorizes FCA to assess Farmer Mac for the cost of its regulatory activities, including the cost of any examination. Each year, OSMO conducts an examination of Farmer Mac to evaluate its safety and soundness, compliance with applicable laws and regulations, and mission achievement. The examination includes a review of Farmer Mac's capital adequacy, asset quality, management performance, earnings, liquidity, and sensitivity to interest rate risk. OSMO may also conduct additional oversight and examination activities unrelated to its annual examination of Farmer Mac at any other time it determines necessary. Farmer Mac is also required to file quarterly reports of condition with FCA.

Capital Standards

General Requirements. Farmer Mac's charter establishes three capital standards for Farmer Mac:

- Statutory minimum capital requirement. Farmer Mac's minimum capital level is an amount of core capital (stockholders' equity less accumulated other comprehensive income) equal to the sum of 2.75% of Farmer Mac's aggregate on-balance sheet assets, as calculated for regulatory purposes, plus 0.75% of Farmer Mac's aggregate off-balance sheet obligations, specifically including:
    - the unpaid principal balance of outstanding loan-backed securities guaranteed by Farmer Mac;
    - instruments issued or guaranteed by Farmer Mac that are substantially equivalent to securities guaranteed by Farmer Mac, including LTSPCs; and
    - other off-balance sheet obligations of Farmer Mac.
- Statutory critical capital requirement. Farmer Mac's critical capital level is an amount of core capital equal to 50% of the total minimum capital requirement at that time.
- Risk-based capital. The charter directs FCA to establish a risk-based capital stress test for Farmer Mac, using specified stress-test parameters.

Farmer Mac must comply with the higher of the minimum capital requirement and the risk-based capital requirement.

The risk-based capital stress test promulgated by FCA is intended to determine the amount of regulatory capital (core capital plus the allowance for losses) that Farmer Mac would need to maintain positive capital during a ten-year period in which:

- annual losses occur at a rate of default and severity "reasonably related" to the rates of the highest sequential two years in a limited U.S. geographic area; and
- interest rates are shocked by the lesser of 600 basis points or 50% of the ten-year U.S. Treasury rate, and interest rates remain at such level for the remainder of the period.

The risk-based capital stress test then adds an additional 30% to the resulting capital requirement for management and operational risk. Farmer Mac's risk-based capital requirement as of December 31, 2023 was $186.4 million, and Farmer Mac's regulatory capital of $1.5 billion exceeded that amount by approximately $1.3 billion. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Capital Requirements" for a presentation of Farmer Mac's current regulatory capital position.

Enforcement Levels. Farmer Mac's charter directs FCA to classify Farmer Mac within one of four enforcement levels to determine compliance with the capital standards established by Farmer Mac's charter. As of December 31, 2023, Farmer Mac was classified as within level I – the highest compliance level.

Failure to comply with the applicable required capital level in the charter would result in Farmer Mac being classified as within level II (below the applicable risk-based capital level, but above the minimum capital level), level III (below the minimum capital level, but above the critical capital level) or level IV (below the critical capital level). If Farmer Mac were classified as within level II, III or IV, the charter requires the Director of OSMO to take specified mandatory supervisory measures and provides the Director with discretionary authority to take various optional supervisory measures depending on the level in which Farmer Mac is classified. The mandatory measures applicable to level II and level III include:

- requiring Farmer Mac to submit and comply with a capital restoration plan;
- prohibiting the payment of dividends if the payment would result in Farmer Mac being reclassified as within a lower level and requiring the pre-approval of any dividend payment even if the payment would not result in reclassification as within level IV; and
- reclassifying Farmer Mac as within one level lower if it does not submit a capital restoration plan that is approved by the Director, or the Director determines that Farmer Mac has failed to make, in good faith, reasonable efforts to comply with such a plan and fulfill the schedule for the plan approved by the Director.

If Farmer Mac were classified as within level III, then, in addition to the mandatory supervisory measures described above, the Director of OSMO could take any of the following discretionary supervisory measures:

- imposing limits on any increase in, or ordering the reduction of, any obligations of Farmer Mac, including off-balance sheet obligations;
- limiting or prohibiting asset growth or requiring the reduction of assets;
- requiring the acquisition of new capital in an amount sufficient to provide for reclassification as within a higher level;
- terminating, reducing, or modifying any activity the Director determines creates excessive risk to Farmer Mac; or
- appointing a conservator or a receiver for Farmer Mac.

Farmer Mac's charter does not specify any supervisory measures, either mandatory or discretionary, to be taken by the Director if Farmer Mac were classified as within level IV.

The Director of OSMO has the discretionary authority to reclassify Farmer Mac to a level that is one level below its then current level (for example, from level I to level II) if the Director determines that Farmer Mac is engaging in any action not approved by the Director that could result in a rapid depletion of core capital or if the value of property subject to mortgages backing securities guaranteed by Farmer Mac has decreased significantly.

Capital Adequacy Requirements. Under FCA's rule on capital planning, Farmer Mac must develop and submit to OSMO for approval annually a plan for capital that considers the sources and uses of Farmer Mac's capital, addresses capital projections under stress scenarios, assesses Farmer Mac's overall capital adequacy, and incorporates a Farmer Mac board-approved policy on capital adequacy. In accordance with this regulation, Farmer Mac's board of directors oversees a policy that requires Farmer Mac to maintain an adequate level of "Tier 1" capital, consisting of retained earnings, paid-in-capital, common stock, qualifying preferred stock, and accumulated other comprehensive income allocable to "non-program" investments that are not included in the Agricultural Finance and Rural Infrastructure Finance lines of business. Under this policy, Farmer Mac must maintain at all times a Tier 1 capital ratio of at least 7.0% of risk-weighted assets, calculated using an advanced internal ratings based asset risk weighting regime that is consistent with current Basel-based principles.

The policy also requires Farmer Mac to maintain a "capital conservation buffer" of additional Tier 1 capital of more than 2.5% of risk-weighted assets. If the capital conservation buffer drops to various levels at or below 2.5%, as shown in the table below, the policy requires Farmer Mac to restrict distributions of current quarter Tier 1-eligible dividends and any discretionary bonus payments to an amount not to exceed the corresponding payout percentage specified in the table below, which represents the percentage of the cumulative core earnings for the four quarters immediately preceding the distribution date:

Capital Conservation Buffer (percentage of risk-weighted assets)	Payout Percentage (percentage of four quarters' accumulated core earnings)
greater than 2.5%	No limitation
greater than 1.875% to and including 2.5%	60%
greater than 1.25% to and including 1.875%	40%
greater than 0.625% to and including 1.25%	20%
equal to or less than 0.625%	0% (no payout permitted)

These distribution restrictions would remain for so long as the Tier 1 capital conservation buffer remains at or below the minimum level of 2.5%, and Farmer Mac's board of directors may consider other factors, such as earnings presented in accordance with generally accepted accounting principles in the United States ("GAAP") and other regulatory requirements, in determining whether to restrict capital distributions, including dividends and bonus payments. As of December 31, 2023, Farmer Mac's Tier 1 capital ratio was 15.4%. The calculation of Farmer Mac's Tier 1 capital ratio does not include certain interest rate risk components of the risk weighting of assets, which reflects the fact that Farmer Mac pursues an approach to funding its assets with liabilities of similar duration and convexity characteristics and therefore does not bear material interest rate risk in its portfolio. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Capital Requirements" for more information on Farmer Mac's Tier 1 capital ratio.

Liquidity Requirements

Liquidity Reserve Requirement and Supplemental Liquidity. Farmer Mac's Liquidity and Investment Regulations require that Farmer Mac maintain at all times a liquidity reserve sufficient to fund at least

90 days of the principal portion of maturing obligations and other borrowings. Farmer Mac may also maintain supplemental liquidity to fund obligations and borrowings maturing after 90 days. The investments that Farmer Mac holds as its liquidity reserve and as supplemental liquidity must consist of unencumbered and readily marketable assets that are diversified in accordance with categories prescribed by FCA, including limitations on asset class, dollar amount, issuer concentration, and credit quality. Farmer Mac must report, in writing, to OSMO no later than the next business day following the discovery of any breach of Farmer Mac's minimum liquidity reserve requirement.

Liquidity Management. Under the Liquidity and Investment Regulations, Farmer Mac must develop and approve annually a liquidity policy that outlines Farmer Mac's purpose and objectives for liquidity reserves, diversification requirements for liquidity reserves, target liquidity levels, maximum investment amounts as a percentage of Farmer Mac's program assets, exception parameters (and approval requirements), delegations of investment authority, and reporting requirements to Farmer Mac's board of directors and to OSMO. The regulations also require Farmer Mac to develop a liability maturity management plan and a contingency funding plan, each of which must be reviewed and approved annually by Farmer Mac's board of directors.

See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" for more information about Farmer Mac's liquidity and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk—Other Investments" for more information about Farmer Mac's eligible investments.

Item 1A. Risk Factors

Farmer Mac's business activities, financial performance, and results of operations are, by their nature, subject to risks and uncertainties, including those related to the agricultural industry, rural infrastructure industries, access to the capital markets, the regulatory environment, the level of prevailing interest rates and overall market conditions. The following risk factors should be considered along with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of this report, including the risks and uncertainties described in the "Forward-Looking Statements" section. Because new risk factors likely will emerge from time to time, management can neither predict all potential risk factors nor assess the effects of those factors on Farmer Mac's business, operating results, and financial condition or how much any factor, or combination of factors, may affect Farmer Mac's actual results and financial condition. If any of the following risks materialize, Farmer Mac's business, financial condition, or results of operations could be materially and adversely affected. Farmer Mac undertakes no obligation to update or revise this risk factor discussion, unless required by applicable law.

Credit and Counterparty Risk

Economic stress caused by disruptive global events, such as geopolitical instability, and natural or human-caused disasters, may materially and adversely affect Farmer Mac's business, operations, operating results, financial condition, liquidity, or capital levels and may heighten other risk factors in this report.

In a tightly-linked global economy, recent or continuing disruptive global events have contributed and may continue to contribute to economic stress on America’s agricultural producers and rural infrastructure by disrupting or transforming markets, systems, or resources that America’s farmers, ranchers, and rural service providers rely on to remain profitable. This includes supply chain disruptions that prevent producers from accessing critical resources or that inhibit exports, inflationary effects that put downward pressure on demand for agricultural products or that may increase production expenses, and rising interest rates that may increase the risk that Farmer Mac’s borrowers may default on their loans. For example, the conflict between Russia and Ukraine, conflict in the Middle East, and severe weather conditions and natural disasters have all contributed to recent or current economic stress on producers and service providers in rural America. Depending on the severity and frequency of these types of disruptive events, as well as the capability of governments and global markets to effectively mitigate the resulting negative effects, a prolonged period of economic stress, including a broader economic downturn or recession, could ensue from these events, which could increase stress on Farmer Mac’s borrowers and their ability to remain profitable and make payments on their loans.

Farmer Mac assumes the ultimate credit risk of borrower defaults on its agricultural mortgage and rural infrastructure loan assets, and Farmer Mac's earnings, which come from net interest income, guarantee fees, and commitment fees on those assets, depend significantly on their performance. Widespread and sustained repayment shortfalls on loans in Farmer Mac's portfolio could result in losses, particularly if the value of the available collateral does not cover Farmer Mac's exposure, and could materially and adversely affect Farmer Mac’s business, operations, operating results, financial condition, liquidity, or capital levels. The occurrence of these disruptive events and resulting negative economic effects may also heighten other risk factors described in this report.

Climate change and the occurrence of weather-related events, or other natural or environmental disasters could have a material adverse effect on Farmer Mac's business, operating results, or financial condition.

In addition to the general risks posed by adverse weather conditions, Farmer Mac's exposure to credit risk and the market value of loan collateral is potentially subject to risks associated with the long-term effects of climate change, as farmers and ranchers face increasing, as well as increasingly-severe, weather incidents. The U.S. experienced 28 separate billion-dollar weather disasters in 2023, surpassing 2020 (which had 22 billion-dollar weather disasters) as the highest level in the 40 years tracked by the National Oceanic and Atmospheric Administration. Many climatologists predict increases in average temperatures, more extreme temperatures, and increases in volatile weather over time. These physical changes may prompt changes in regulations or consumer preferences, which in turn could have negative consequences for the business models of borrowers, such as increasing costs, reducing the value of assets, and increasing operating expenses. For example, long and persistent heat and drought conditions affected agricultural production regions in the western and midwestern parts of the United States in 2021 and 2022. There was a sizable improvement in conditions in 2023 for large portions of the West Coast, especially California, but drought conditions have intensified in other areas of the country. Approximately 14% of the continental U.S. was classified as being in severe to exceptional drought as of January 2, 2024, according to data from the National Center for Environmental Information. The effects of climate change could make some agricultural properties less suitable for farming or for other alternative uses. 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. These and other effects of climate change could have an adverse impact on farming operations and the value of loan collateral, which could have a material adverse effect on Farmer Mac's business, operating results, or financial condition.

Other external factors outside of Farmer Mac's or borrowers' control may impair borrowers' profitability and ability to repay their loans in Farmer Mac's portfolio, which could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

Other external factors beyond Farmer Mac's or borrowers' control could impair borrowers' profitability, such as volatility in demand for agricultural products or electricity in rural areas; variability in borrowers' input costs; protracted regional, domestic, or global economic stress (whether due to disruptive global events or otherwise); legislative or regulatory actions affecting rural borrowers; U.S. trade policy affecting the demand for agricultural exports or the price of imports required for borrowers' operations; increased competition among producers due to oversupply or available alternatives; and adverse changes in interest rates and land values. Any of these factors could put downward pressure on the value and profitability of a farming, agribusiness or rural utilities operation, which could then inhibit the related borrower's repayment capacity on one or more loans that Farmer Mac may have from that borrower in its portfolio. A significant number of defaults, or a single default from a large borrower exposure, stemming from one or more of these factors could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

A decline in the value of collateral securing loans in Farmer Mac's portfolio or a decline in the value of Farmer Mac's borrowers could increase the probability of loss in the event of default, which could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

Farmer Mac's credit risk may increase due to decline in the collateral values securing the loans in Farmer Mac's portfolio. Specialized or highly improved collateral, such as storage and processing facilities, permanent plantings, or rural utilities and renewable energy facilities, increase the risk of undercollateralization in a default scenario because producers requiring specialized or highly improved collateral are generally less able to adapt their operations or switch functional production when faced with adverse conditions. Highly improved properties also face higher risk of loss in a default scenario, as the pool of potential purchasers in a sale or foreclosure action may be smaller for a highly improved property than for a property that is adaptable to multiple uses. If a borrower defaults and Farmer Mac forecloses on a loan secured by property that is specialized or highly improved, Farmer Mac has experienced, and may in the future experience, losses if the value of the property has dropped significantly since origination or if there is a limited pool of potential purchasers willing to purchase the property at the price necessary for Farmer Mac to recoup its investment. Farmer Mac's credit risk may also increase due to a decline in the enterprise value of borrowers whose loans have been underwritten based on the estimated value of the borrower as a going concern. External market factors outside of the borrower's control may cause stress in the related industry, such as decrease in market demand, disruptions in supply chain, geopolitical or regulatory action, or increased market competition. A borrower's management decisions, such as poorly executed acquisitions or growth strategies or inability to adapt to changing market conditions, may also adversely affect that borrower's ability to repay its loan. In these scenarios, the borrower may experience downward pressure on cash flows and liquidity, which not only may contribute to an increased risk of default, but also could decrease the borrower's enterprise value. Farmer Mac may incur losses if the value of the collateral securing a loan or the enterprise value of a borrower is less than the outstanding principal balance of Farmer Mac's loan at the time of foreclosure or sale, liquidation, or other disposition of the business. If losses caused by declines in collateral value or borrower enterprise value occur across a large number of loans, or across loans with large principal balances in the aggregate, this could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

Concentrations in Farmer Mac's loan or investments portfolios, or to one or more borrowers or counterparties, may increase Farmer Mac's exposure to credit risk, which could materially and adversely affect its business, operating results, and financial condition.

Farmer Mac's exposure to credit risk may increase due to concentrations in its loan portfolio, which can include concentrated exposure to particular commodities, geographic regions, or collateral types, as well as concentrations in processing and manufacturing segments of agricultural supply chains or in rural utilities or renewable energy industries. Widespread weakening in the financial condition of borrowers within a particular geographic region that produce particular commodities or rely on particular collateral, that engage in processes or production that depend on a fluid supply chain, or that produce or provide a specialized infrastructure service or product could negatively affect Farmer Mac’s financial condition if sufficient diversity in these areas does not successfully mitigate concentration risk.

Farmer Mac's exposure to credit risk may also increase due to concentrated exposure to a particular borrower or counterparty. Farmer Mac’s portfolio consists of loans varying in size and by borrower, including large exposures ($25 million or more) to individual borrowers. The default of any one of these borrowers could negatively affect Farmer Mac's financial condition. Farmer Mac also has concentrated exposures to individual business counterparties on AgVantage securities, which are general obligations of institutional counterparties secured by eligible loans held by the issuing institution. Although AgVantage securities are collateralized by eligible loans in a principal amount equal to or greater than the principal amount of the securities outstanding, Farmer Mac could suffer losses if the market value of the loan collateral declines and the counterparty defaults. Taking possession of the loan collateral upon a default by the AgVantage counterparty could also result in higher current expected credit losses for Farmer Mac's loans held on balance sheet, as well as increased capital requirements. As of December 31, 2023, $9.0 billion of the $10.0 billion of AgVantage securities outstanding had been issued by only three counterparties. A default by any of these counterparties could have a significant adverse effect on Farmer Mac's business, operating results, and financial condition.

Farmer Mac's exposure to credit risk may also increase due to concentrated exposure to one or more investment types or counterparties in the investment portfolio Farmer Mac maintains for liquidity. This investment portfolio consists primarily of cash and cash equivalents, U.S. Treasury securities, investment securities guaranteed by U.S. Government agencies and GSEs, and asset-backed securities backed primarily by U.S. Government-guaranteed loans. Farmer Mac regularly reviews concentration limits to ensure that its investments are appropriately diversified and comply with policies approved by Farmer Mac's board of directors and with applicable FCA regulations, but Farmer Mac is still exposed to credit risk from issuers of the investment securities it holds, particularly to issuers to whom Farmer Mac may have a higher concentration of exposure relative to the rest of Farmer Mac's investment portfolio. For example, as of December 31, 2023, Farmer Mac held at fair value $3.7 billion of investment securities guaranteed by GSEs. A default by multiple issuers of investment securities held by Farmer Mac or by a single issuer of investment securities in which Farmer Mac is more heavily concentrated could have an adverse effect on Farmer Mac's business, operating results, and financial condition.

Farmer Mac Guaranteed Securities and LTSPCs expose Farmer Mac to significant contingent liabilities, and Farmer Mac's ability to fulfill its obligations under its guarantees and LTSPCs may be limited.

Farmer Mac's guarantee and purchase commitment obligations to third parties, including LTSPCs and securities guaranteed by Farmer Mac, are obligations of Farmer Mac only and are not backed by the full faith and credit of the United States, FCA, or any other agency or instrumentality of the United States other than Farmer Mac. As of December 31, 2023, Farmer Mac had $4.1 billion of contingent liabilities related to LTSPCs and securities issued to third parties and guaranteed by Farmer Mac, which represents Farmer Mac's exposure if all loans underlying these LTSPCs and guarantees defaulted and Farmer Mac recovered no value from the related collateral. If this were to occur, the funds available for payment on these guarantees and LTSPCs could be substantially less than the aggregate amount of the corresponding liabilities. As of December 31, 2023, Farmer Mac held cash, cash equivalents, and other investment securities with a fair value of $5.9 billion that could be used as a source of funds for payment on its obligations, including its guarantee and LTSPC obligations. Although Farmer Mac believes that it remains well-collateralized on the assets underlying its guarantee and LTSPC obligations to third parties and that the estimated probable losses for these obligations remain low relative to the amount available for payment of claims on these obligations, Farmer Mac's total contingent liabilities for these obligations could exceed the amount it may have available for payment of Farmer Mac's obligations, including claims on Farmer Mac's contingent obligations. See "Management's Discussion and Analysis—Risk Management—Credit Risk – Loans and Guarantees" for more information on Farmer Mac's management of credit risk.

Farmer Mac is exposed to counterparty risk on both its cleared and non-cleared swaps transactions that could materially and adversely affect its business, operating results, and financial condition.

Farmer Mac uses interest rate swap contracts and hedging arrangements to manage its interest rate risk. Farmer Mac clears a significant portion of its interest rate swaps through a swap clearinghouse and uses the services of a futures commission merchant to post and receive mark-to-market margin amounts. Farmer Mac also transacts non-cleared (bilateral) derivative contracts directly with swap counterparties and posts and receives collateral to secure the market value of those contracts. A failure of any of these counterparties could cause intra-day disruption for Farmer Mac's swap operations if the failure were to prompt a termination of all or part of Farmer Mac's swap positions or if Farmer Mac were unable to quickly access margin or collateral amounts. These conditions could be exacerbated in volatile market conditions, in which the market could move against Farmer Mac's position before Farmer Mac had time to reposition its swaps. These events could have a negative effect on Farmer Mac's operations and liquidity and could expose Farmer Mac to more interest rate risk, which could materially and adversely affect its business, operating results, and financial condition. As of December 31, 2023, the aggregate notional balance of Farmer Mac's cleared swaps was $20.5 billion, and the aggregate notional balance of Farmer Mac's non-cleared swaps was $5.2 billion.

Strategic/Business Risk

Farmer Mac's business, operating results, financial condition, and capital levels may be materially and adversely affected by external factors that may affect the demand for Farmer Mac's secondary market, the price or marketability of Farmer Mac's products, or Farmer Mac's ability to offer its products and services.

Farmer Mac's business, operating results, financial condition, and capital levels may be materially and adversely affected by external factors that may affect the price or marketability of Farmer Mac's products and services or Farmer Mac's ability to offer its products and services, including, but not limited to:

- disruptions in the debt or equity capital markets;
- competitive pressures in Farmer Mac's loan purchase and guarantee activities or in the issuance of its debt securities;
- changes in interest rates that may increase Farmer Mac's funding costs;
- market or customer perception of Farmer Mac's reputation;
- legislative or regulatory developments adversely affecting Farmer Mac's ability to offer new products, the ability or motivation of lenders to participate in Farmer Mac's lines of business, or the cost of related corporate activities;
- reduced demand for agricultural real estate loans or rural infrastructure loans due to regional, domestic, or global economic conditions; and
- expanded funding alternatives available to agricultural and rural infrastructure borrowers.

An inability to access the equity and debt capital markets could have a material adverse effect on Farmer Mac's business, operating results, financial condition, liquidity, and capital levels.

Farmer Mac's ability to operate its business, meet its obligations, generate asset volume growth, and fulfill its statutory mission depends on Farmer Mac's continued access to the U.S. financial markets at favorable rates and terms to remain adequately capitalized through the issuance of equity and with adequate access to liquidity through the issuance of debt securities. The issuance of debt securities is Farmer Mac's primary source for repaying or refinancing existing debt and to fund contingent liabilities, as needed. Farmer Mac's ability to access the debt and equity markets to raise capital, fund its assets, repay debt, and earn net interest income depends on market perception of Farmer Mac. If Farmer Mac were unable to access the U.S. financial markets to issue equity or debt securities at favorable rates and terms, Farmer Mac's business, operating results, liquidity, or financial condition could be adversely affected.

The loss of business from key business counterparties or customers, including AgVantage counterparties, could weaken Farmer Mac's business and decrease its revenues and profits.

Farmer Mac's business and ability to generate revenues and profits largely depends on its ability to purchase eligible loans or place eligible loans under guarantees or LTSPCs and to purchase or guarantee AgVantage securities. Farmer Mac conducts a significant portion of its business with a few business counterparties. This concentration of business could potentially result in increased variability in Farmer Mac's business as existing assets pay down or mature and the status and needs of Farmer Mac's customers evolve. In 2023, ten institutions generated approximately 81% of loan purchase volume in the Agricultural Finance line of business. As of December 31, 2023, approximately 90.1% of the $10.0 billion outstanding principal amount of AgVantage securities (of which $2.4 billion and $1.2 billion will be maturing in 2024 and 2025, respectively) were issued by three institutions. As of December 31, 2023, transactions with two institutions represented nearly all of the business volume under Farmer Mac's Rural Infrastructure Finance line of business. Farmer Mac's ability to maintain the current relationships with its business counterparties or customers and the business generated by those business counterparties or customers is significant to Farmer Mac's business. As a result, the loss of business from any one of Farmer Mac's key business counterparties could decrease Farmer Mac's revenues and profitability. Farmer Mac may be unable to replace the loss of business of a key business counterparty or customer with alternate sources of business due to limitations on the types of assets eligible for Farmer Mac's secondary market, which could adversely affect Farmer Mac's business and decrease its revenues and profits.

Farmer Mac's efforts to balance fulfilling its mission with providing a return to its stockholders may result in business transactions that involve lower returns or higher risk, which could adversely affect its business, operating results, or financial condition.

Congress created Farmer Mac to provide for a secondary market for agricultural mortgage loans, rural infrastructure loans, and the guaranteed portions of USDA-guaranteed loans. In pursuing this mission, Farmer Mac's secondary market activities are designed to:

- increase the accessibility of financing to rural borrowers at stable interest rates;
- provide greater liquidity and lending capacity in extending credit to rural borrowers; and
- provide an arrangement for new lending by facilitating capital market investments in funding for rural borrowers, including funds at fixed rates of interest.

Farmer Mac's charter provides that its standards for Farm & Ranch loans shall not discriminate against small originators or small agricultural mortgage loans of at least $50,000. The charter also requires Farmer Mac's board of directors to promote and encourage the inclusion of qualified loans for small farms and family farmers in the agricultural mortgage secondary market.

Although Farmer Mac strives to undertake its mission-related activities in a manner consistent with providing an accretive return to Farmer Mac's stockholders, these activities could contribute to a lower return to stockholders than if Farmer Mac's sole purpose were to maximize stockholder value. If Farmer

Mac were to undertake activities involving greater risk or lower returns to satisfy its mission, Farmer Mac's business, operating results, or financial condition could be adversely affected.

A few stockholders who own large amounts of Farmer Mac voting common stock may seek to influence Farmer Mac's business, strategy, or board composition, and the interests of these stockholders may differ from the interests of Farmer Mac or other holders of Farmer Mac's common stock.

The ownership of Farmer Mac's two classes of voting common stock is concentrated in a few institutions. Four financial institutions hold approximately 51% of Farmer Mac's Class A voting common stock, with 31% held by one institution. Five FCS institutions hold approximately 97% of Farmer Mac's Class B voting common stock (two of which are related to each other through a parent-subsidiary relationship). The holders of Farmer Mac's Class A voting common stock and the holders of Farmer Mac's Class B voting common stock each have the right to elect one-third of the membership of Farmer Mac's board of directors. Many of these holders are rural lenders that may compete directly with each other. As long as Farmer Mac's Class A and Class B voting common stock is highly concentrated in a few institutions, these institutions may seek to influence Farmer Mac's business, strategy, or board composition in a way that may not be in the best interests of either Farmer Mac or other stockholders.

Operational Risk

The inadequacy or failure of Farmer Mac's operational systems, cybersecurity program, internal controls or processes, or infrastructure, or those of third parties, could have a material adverse effect on Farmer Mac's business, operating results, or financial condition.

Farmer Mac is exposed to operational risk due to the complex nature of its business operations and the processes and systems used to undertake its business activities and comply with regulatory requirements. Operational risk includes the risk of loss to Farmer Mac resulting from:

- inadequate or failed internal processes, systems, cybersecurity program, or infrastructure;
- Farmer Mac's inability to successfully implement enhancements to any of these or migrate to new systems or infrastructure;
- any cybersecurity incident or compromise of Farmer Mac's information systems or security measures (including of its third parties), or the unauthorized access and/or acquisition of data;
- failed execution of system implementations and upgrades;
- human error, malfeasance, or other misconduct;
- undetected or unknown errors, defects, or vulnerabilities in third party software or cybersecurity incidents related to third party software;
- inadequate or failed internal controls or processes to detect or prevent fraud or other violations of law or regulations; or
- external events, including a disruption involving physical site access, catastrophic events, natural disasters, terrorist activities, or disease pandemics.

Farmer Mac relies on business processes that largely depend on people, technology, and the use of complex systems and models to manage its business, process a high volume of daily transactions, and generate the records on which Farmer Mac's financial statements are based. Inadequacies or failures in Farmer Mac's internal processes, personnel, systems, cybersecurity program, or infrastructure could lead to a significant disruption to business operations; unauthorized access to, or acquisition, destruction, alteration, release, theft, or loss of, confidential, proprietary, or personal data; fraud on Farmer Mac's business and customers; extortion; financial and economic loss or costs; errors in its financial statements; impairment of its liquidity; harm to its employees, customers, or vendors; liability or service interruptions to its customers; loss of customers or vendors; violation of data protection laws and other litigation and legal risk; increased regulatory or legislative scrutiny; or reputational damage.

The potential for operational risk exposure also exists as a result of Farmer Mac's interactions with, and reliance on, third parties. Farmer Mac's business relies on its ability to process, evaluate, and interpret significant amounts of information, much of which third parties provide or process. Yet Farmer Mac's ability to implement safeguards preventing disruption or unauthorized access to third-party systems or infrastructure is more limited than for its own systems or infrastructure. If the financial, accounting, data processing, backup, information technology, or other operating systems and infrastructure of third parties with whom Farmer Mac interacts or upon whom it relies fail to operate properly, are subject to unauthorized access, or are disrupted, then Farmer Mac may be impacted in the same manner as it would be due to inadequacies or failures in Farmer Mac's own internal processes, personnel, systems, cybersecurity program, or infrastructure.

Farmer Mac’s internal loan servicing function and reliance on third-party servicers could expose Farmer Mac to operational risks that could adversely affect its business, operating results, or financial condition.

Effective and reliable loan servicing is essential for Farmer Mac to successfully operate its business. Starting in 2021, Farmer Mac has expanded its internal loan servicing function through two strategic acquisitions that included the loan servicing rights for a sizeable portion of Farmer Mac’s Agricultural Finance mortgage loan and USDA Securities portfolios, as well as servicing rights for eligible agricultural mortgage loans that are held by an unrelated third party. Farmer Mac has also acquired experienced servicing personnel and an operational servicing platform during that time. This expansion of servicing responsibilities and personnel has required Farmer Mac to implement processes and controls for a business function that Farmer Mac has previously not operated and still has limited experience executing and managing. Farmer Mac also continues to rely on experienced third-party servicers to service the portion of Farmer Mac’s Agricultural Finance mortgage loan portfolio not serviced directly by Farmer Mac. Although Farmer Mac has established servicing standards and requirements to which these third-party servicers are required by contract to adhere and on which they must report to Farmer Mac, Farmer Mac does not manage the processes and controls of these third-party servicers. The ineffective implementation, operation, or oversight of one or more of the servicing processes or controls employed by Farmer Mac or any of its third-party servicers could expose Farmer Mac to operational risk that could adversely affect Farmer Mac’s business, operating results, or financial condition.

A deficiency, failure, interruption, or breach in Farmer Mac's or its service providers' technology and information systems, infrastructure, or cybersecurity program, including the occurrence of a cybersecurity incident, could result in a loss of business, damage to Farmer Mac's reputation, the disclosure or misuse of confidential or proprietary information, or increased costs or liability to Farmer Mac, which could adversely affect Farmer Mac's business, operating results, or financial condition.

Farmer Mac relies heavily on technology and information systems, including from third parties, for the secure collection, processing, transmission, and storage of confidential, proprietary, and personal information in its information systems (and those of third parties) to conduct and manage its business operations. These technology and information systems encompass an integrated set of hardware, software, infrastructure, and personnel organized to facilitate the planning, control, coordination, operations, and decision-making processes within Farmer Mac. As the importance and complexity of Farmer Mac’s technology and information systems has increased, and as new technologies are developed that are used by its customers, Farmer Mac, or its service providers to support its business and operations, the risks posed to Farmer Mac’s information systems and data from cybersecurity attacks that threaten the confidentiality, integrity, or availability of Farmer Mac’s information technology assets and resources and its data have increased. Like many other financial institutions, Farmer Mac and its third party service providers face regular attacks by threat actors attempting to gain unauthorized access to, or disrupt, its information systems and access or acquire its data, including from organized criminal groups, hackers, nation states, activists, insiders, and other unauthorized third parties. These threats come from a variety of different sources, including cyber-attacks, computer viruses, malware, exploits of system and network vulnerabilities, human error, phishing, ransomware, and distributed denial of service attacks. The threats Farmer Mac faces and the methods used to gain unauthorized access to or disrupt its information systems and data, or those of its service providers, are evolving. Farmer Mac is not always able to prevent or recognize attacks, and Farmer Mac's existing cybersecurity defenses may not be sufficient to detect attacks in a timely manner. Also, Farmer Mac may be unable to implement effective preventive measures or proactively address these threats until after a cybersecurity incident has been discovered. Moreover, any employees or agents of Farmer Mac’s (or its third-party customers or vendors) who have authorized access to confidential, proprietary, or personal information could also intentionally, inadvertently, or erroneously disseminate the information to unauthorized third parties.

Farmer Mac’s current information security program with cybersecurity procedures, policies, practices, and controls, may not be sufficient to prevent unauthorized access to its information technology assets or data, which could lead to a significant disruption to business operations; unauthorized access to or acquisition, destruction, alteration, release, theft, or loss of confidential, proprietary, or personal data; fraud (on Farmer Mac and/or its customers); extortion; financial and economic loss or costs; errors in its financial statements; impairment of its liquidity; harm to employees, customers, or vendors; liability or service interruptions to its customers; loss of customers or vendors; violation of data protection laws and other litigation and legal risk; increased regulatory or legislative scrutiny; or reputational damage. Farmer Mac also could be subject to litigation and government enforcement actions as a result of any such failure. Any such claim or proceeding could cause us to incur significant unplanned expenses in excess of Farmer Mac's insurance coverage, which could adversely affect Farmer Mac's financial condition and results of operations. The amount and scope of insurance Farmer Mac maintains may not cover all expenses related to such claims. Also, Farmer Mac's service providers may also experience interruptions to their technology, facilities, and information systems that could adversely impact Farmer Mac and over which Farmer Mac may have limited or no control. Finally, the risk of unauthorized access to confidential, proprietary, or personal information through information system breaches or inadvertent dissemination may be heightened in a remote-working environment, which is currently more prevalent at Farmer Mac.

Failure by Farmer Mac's third-party loan servicers, third-party applications, information systems providers, and other service providers to protect confidential information from unauthorized access and dissemination could result in liability for Farmer Mac or damage Farmer Mac's reputation, which could have a negative effect on Farmer Mac's business, operating results, or financial condition.

Farmer Mac relies on third parties, including loan servicers, information systems providers, software-as-a-service (SaaS) providers, cloud computing service providers, law firms, and other service providers, to perform various functions that support Farmer Mac’s business and operations. Farmer Mac depends on these third parties to collect, process, transmit, and store a variety of confidential, proprietary, or personal information, including sensitive financial information and customer information. Just as Farmer Mac is subject to numerous cyber-attacks from a variety of actors, so too are these third parties. Farmer Mac requires third parties who collect, process, or store confidential, proprietary, or personal data to adhere to security policies, processes, and controls. However, the control systems, cybersecurity program, infrastructure, and personnel associated with third parties with which Farmer Mac does business or obtains services are beyond its control. Farmer Mac is aware of cybersecurity incidents involving its third party service providers in the past, and although Farmer Mac has not experienced a material loss of data or disruption of its operations due to a breach of third party systems, unauthorized access to a third party service provider's information technology assets or data may significantly impact Farmer Mac's operations in the same manner as incidents on its own systems.

Farmer Mac relies upon a variety of third parties to run and operate its business, including servicers who perform certain duties for loans Farmer Mac has purchased. Farmer Mac also relies upon a variety of third-party applications, services, and tools that are not developed by Farmer Mac, including cloud-based platforms and related data centers, to host data and support and operate certain aspects of its services and business operations. These third parties – particularly servicers – maintain, transmit, and receive confidential, proprietary, and personal information, including customer information. The unauthorized access to, acquisition, misuse, mishandling, unavailability, or destruction of Farmer Mac's data or confidential information stored by these third parties or on their applications and systems, or unauthorized access to or disruption of these third party applications, services, or tools could result in: unauthorized access to Farmer Mac's own systems; significant disruption to its business operations; fraud (on Farmer Mac and/or its customers); extortion; financial and economic losses or costs; errors in financial statements; impairment of its liquidity; harm to its employees, customers, or vendors; liability or service interruptions to its customers; loss of customers or vendors; violation of data protection laws and other litigation and legal risk; increased regulatory or legislative scrutiny; reputational damage; or litigation and government enforcement actions.

If Farmer Mac's management of risk associated with its loan assets and investment securities based on model assumptions and output is not effective, its business, operating results, financial condition, or capital levels could be materially adversely affected.

Farmer Mac continually develops and adapts profitability and risk management models to adequately address a wide range of possible market developments. Some of Farmer Mac's qualitative tools and metrics for managing risk are based on its use of observed historical market behavior. Farmer Mac applies statistical and other tools to these observations to quantify its risks. These tools and metrics may fail to predict future or unanticipated risks or may not be effective in mitigating its risk exposure in all economic market environments or against all types of risk, which could expose Farmer Mac to material unanticipated losses. The inability of Farmer Mac to effectively identify and manage the risks inherent in its business could have a material adverse effect on its business, operating results, financial condition, or capital levels.

Farmer Mac's efforts to expand product offerings and services to its customers exposes Farmer Mac to operational risk that could materially and adversely affect its business, operating results, or financial condition.

As the needs of Farmer Mac's customer base and rural America evolve, Farmer Mac seeks to respond by offering new products and services to meet these needs. As Farmer Mac expands its product offerings and services, it is exposed to operational risk in implementing these new products and services. New products and services may require new operational processes, which often require new internal controls to manage new risks that these new processes present. If these controls are insufficient or ineffective to manage the risks inherent in these new processes, or if there is human error in executing these new controls either due to their novelty or otherwise, Farmer Mac could face financial loss, reputational damage, or regulatory enforcement, which could materially and adversely affect Farmer Mac's business, operating results, or financial condition.

Market Risk

Farmer Mac is exposed to interest rate risk that could materially and adversely affect its operating results or financial condition.

Farmer Mac is subject to interest rate risk due to the timing differences in the cash flows of the assets it holds and the liabilities issued to fund those assets. Farmer Mac's primary strategy for managing interest rate risk is to fund asset purchases with debt together with financial derivatives that have similar duration and convexity characteristics to help mitigate impacts from interest rate changes across the yield curve. However, the ability of borrowers to prepay their loans before the scheduled maturities increases the likelihood of asset and liability cash flow mismatches. In a changing interest rate environment, these cash flow mismatches affect Farmer Mac's earnings if assets repay sooner than expected and the resulting cash flows must be reinvested in lower-yielding investments, particularly if Farmer Mac's related funding costs cannot be correspondingly repaid. Conversely, if assets repay more slowly than anticipated and the associated debt issued to fund the assets must be reissued at a higher interest rate, Farmer Mac's earnings could be adversely affected. In addition, rapid changes in interest rates could have a negative effect on Farmer Mac's net interest income across quarters. For example, since 2022, the Federal Reserve has rapidly increased the target range for the federal funds rate by 5.25% in an effort to combat rising inflation. Although Farmer Mac benefited from higher nominal interest rates in its investment portfolio, if those nominal interest rates decline, Farmer Mac may earn less interest income on its investments in future periods. Furthermore, a future period of rapid increase or decline in interest rates may create or exacerbate periods of market volatility that could adversely affect Farmer Mac's ability to manage interest rate risk, which could have a material adverse effect on Farmer Mac's operating results or financial condition. See "Management's Discussion and Analysis—Risk Management—Interest Rate Risk" for more information on Farmer Mac's management of interest rate risk.

Farmer Mac is also subject to repricing risk, which is the risk that Farmer Mac's funding cost relative to a benchmark index (for example, the Secured Overnight Financing Rate known as "SOFR") will increase from the time the initial funding was issued and the time the liabilities are re-funded. This repricing risk arises from a funding strategy whereby Farmer Mac issues floating rate debt across a variety of maturities to fund floating or synthetically floating rate assets that on average may have longer maturities. A significant increase in the difference between Farmer Mac's funding cost relative to the benchmark index, including SOFR, may compress spread income on the assets Farmer Mac holds and seeks to re-fund with the higher cost funding. Widespread compression within a short timeframe could adversely affect Farmer Mac's operating results or financial condition.

Changes in interest rates relative to Farmer Mac's management of interest rate risk through derivatives may cause volatility in financial results and capital levels and may adversely affect Farmer Mac's net income, liquidity position, or operating results.

Farmer Mac enters into financial derivatives transactions to hedge interest rate risks inherent in its business and carries its financial derivatives at fair value in its consolidated financial statements. Although

Farmer Mac's financial derivatives provide economic hedges of interest rate risk, changes in the fair values of financial derivatives can cause volatility in net income and in capital, particularly if those financial derivatives are not designated in hedge accounting relationships or if there is any ineffectiveness in a hedge accounting relationship. As interest rates increase or decrease, the fair values of Farmer Mac's derivatives change based on the position Farmer Mac holds relative to the specific characteristics of the derivative. Farmer Mac's core capital available to meet its statutory minimum capital requirement can be affected by changes in the fair values of financial derivatives, as noted above. Adverse changes in the fair values of Farmer Mac's financial derivatives that are not designated in hedge accounting relationships and any hedge ineffectiveness that results in a loss would reduce the amount of core capital available to meet this requirement. In 2023 and 2022, Farmer Mac recorded a gain of $5.1 million and a gain of $13.5 million, respectively, from changes in the fair values of its financial derivatives as a result of movements in interest rates during those years. Farmer Mac recorded losses of $5.4 million and gains of $5.8 million in 2023 and 2022, respectively, related to ineffectiveness in hedge accounting relationships.

Changes in interest rates have required, and in the future may require, Farmer Mac to post cash or investment securities to collateralize its derivative exposures due to corresponding changes in the fair market values of these derivatives. If changes in interest rates were to result in a significant decrease in the fair value of Farmer Mac's derivatives, Farmer Mac would be required to post cash, cash equivalents, or investment securities, possibly within a short period of time, to satisfy its obligations under its derivatives contracts. As of December 31, 2023, Farmer Mac posted $84.6 million of cash and $207.2 million of investment securities as collateral for its derivatives in net liability positions. If Farmer Mac is required to fully collateralize a significant portion of its derivatives in an adverse interest rate environment, it could have a material adverse effect on Farmer Mac's liquidity position or operating results.

Financial Risk

Incorrect estimates and assumptions by management in preparing financial statements could adversely affect Farmer Mac's business, operating results, reported assets and liabilities, financial condition, reputation, or capital levels.

Farmer Mac's accounting policies and methods are fundamental to how it records and reports its financial condition and results of operations. Some of these policies and methods require management to make estimates and assumptions in preparing Farmer Mac's consolidated financial statements. Incorrect estimates and assumptions by management in connection with preparing Farmer Mac's consolidated financial statements could adversely affect the reported amounts of assets and liabilities and the reported amounts of income and expenses. For example, as of December 31, 2023, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at $5.6 billion whose fair values management estimated in the absence of readily observable fair values (in other words, level 3). These financial instruments measured with significant unobservable inputs represented 18.8% of total assets and 52.4% of financial instruments measured at fair value as of December 31, 2023. See "Management's Discussion and Analysis—Critical Accounting Estimates" for more information about fair value measurement. If management makes incorrect assumptions or estimates that result in understating or overstating reported financial results, it could materially and adversely affect Farmer Mac's business, operating results, reported assets and liabilities, financial condition, reputation, or capital levels.

Changes in the value or composition of Farmer Mac's investment securities could adversely affect Farmer Mac's business, operating results, financial condition, liquidity or capital levels.

Deterioration in financial or credit market conditions could reduce the fair value of Farmer Mac's investment securities, particularly those securities that are less liquid and more subject to market variability. Some securities owned by Farmer Mac, including auction-rate certificates, do not have well-established secondary trading markets, making it more difficult to estimate current fair values for those securities. This requires Farmer Mac to rely on market observations and internal models to estimate the fair values of its investment securities and to determine whether credit losses exist. However, available market data may not reflect the actual sale conditions Farmer Mac may face when selling its investment securities, particularly in adverse financial market conditions. Internal models require Farmer Mac to exercise judgment about estimates and assumptions used in the models. If Farmer Mac uses unreliable market data or incorrect estimates or assumptions in its internal models to estimate the fair value of its investment securities, those estimates could adversely affect results of operations during the reporting period. And if Farmer Mac decides to sell securities in its investment portfolio, the price ultimately realized will depend on the demand and liquidity in the market at the time of sale, which could be significantly less than Farmer Mac's estimates for fair value. Failure to accurately estimate the fair value of Farmer Mac's investment securities could adversely affect Farmer Mac's business, operating results, financial condition, liquidity or capital levels.

The trading price for Farmer Mac's Class C non-voting common stock may be volatile due to market influences, trading volume, the effects of equity awards for Farmer Mac's officers, directors, and employees, or sales of significant amounts of the stock by large holders.

The trading price of Farmer Mac's Class C non-voting common stock ("Class C stock") has at times experienced substantial price volatility and may remain volatile. For example, the trading price of the Class C stock ranged from $113.53 per share to $194.92 per share during 2023. The trading price may fluctuate in response to various factors, including short sales, hedging, the presence or absence of a share repurchase program, stock market influences in general that are unrelated to Farmer Mac's operating performance, or sales of significant amounts of the stock by large holders. Farmer Mac typically grants equity awards each year that are based on the Class C stock, including grants that vest over time or upon the achievement of specified performance goals. Sales of stock acquired upon vesting or the exercise of equity awards by Farmer Mac's officers, directors, or employees, whether under an established trading plan or otherwise, could adversely affect the trading price of the Class C stock. All of these factors may be exacerbated during periods of low trading volume for Farmer Mac's Class C stock, which averaged 57,662 shares daily during 2023 and may have a prolonged negative effect on its trading price or increase price volatility.

Regulatory and Compliance Risk

Farmer Mac and many of its business counterparties are subject to comprehensive government regulation, and unanticipated changes to those laws and regulations could adversely affect Farmer Mac's business, operating results, reputation, or financial condition.

Farmer Mac was established under a statutory charter that the U.S. Congress may amend at any time and is regulated by various government agencies, including the FCA and the SEC. Future legislative or regulatory actions affecting Farmer Mac's statutory charter or its business activities, including increased regulatory supervision, and any required changes to Farmer Mac's business or operations resulting from such actions, could result in a financial loss for Farmer Mac or otherwise reduce its profitability, impose more compliance and other costs on Farmer Mac, limit the products offered by Farmer Mac or its ability to pursue business opportunities in which it might otherwise consider engaging, curtail business activities in which it is currently engaged, affect the value of assets that Farmer Mac holds, or otherwise adversely affect Farmer Mac's business, results of operations, reputation, or financial condition.

The financial services industry, in which most of Farmer Mac's business counterparties and customers operate, is subject to significant legislation and regulations. To the extent that current or future legislation, regulations, or supervisory activities affect the activities of banks, insurance companies, other rural lenders, derivatives counterparties, clearinghouses, securities dealers, or other regulated entities that constitute a large portion of Farmer Mac's business counterparties or customers, Farmer Mac could experience loss of business or business opportunities, increased compliance costs, disadvantageous business terms in its dealings with counterparties, and unfavorable changes to its business practices or activities. As a result, Farmer Mac's business, operating results, reputation, or financial condition could be adversely affected.

Farmer Mac's capital requirements may change, and failure to meet those requirements could result in supervisory measures or the inability of Farmer Mac to declare dividends, or otherwise materially and adversely affect Farmer Mac's business, operating results, or financial condition.

Farmer Mac is required by statute and regulation to maintain certain capital levels. Any inability by Farmer Mac to meet these capital requirements could result in supervisory measures by FCA, adversely affect Farmer Mac's ability to declare dividends on its common and preferred stock, or otherwise materially and adversely affect Farmer Mac's business, operating results, or financial condition. As required by an FCA regulation on capital planning, Farmer Mac has adopted a policy to maintain a sufficient level of Tier 1 capital and to restrict paying Tier 1-eligible dividends if Tier 1 capital falls below specified thresholds. For more information about Farmer Mac's capital requirements, including the Tier 1 capital requirement, see "Business—Government Regulation of Farmer Mac—Regulation—Capital Standards." Factors that could adversely affect the adequacy of Farmer Mac's capital levels in the future, and which may be beyond Farmer Mac's control, include:

- credit losses;
- adverse changes in interest rates or credit spreads;
- the need to increase the level of the allowance for losses on loans;
- legislative or regulatory actions that increase Farmer Mac's capital requirements; and
- changes in GAAP.

Political Risk

Farmer Mac is a GSE that may be materially and adversely affected by legislative or political developments.

Farmer Mac is a GSE with a statutory charter that may be amended by Congress at any time, and is also regulated by government agencies, including the FCA and the SEC. Although Farmer Mac is not aware of any pending legislative or regulatory proposals that would materially impact its business or operations, Farmer Mac's ability to effectively conduct its business is subject to risks and uncertainties related to political developments that could affect Farmer Mac or GSEs generally. These political risks and uncertainties may be heightened under a new Congress or Presidential administration. Farmer Mac cannot predict whether or when legislative or regulatory initiatives may commence that, if successful, could negatively affect the status of Farmer Mac as a GSE or how Farmer Mac operates, and which could have a material and adverse effect on Farmer Mac's business, operating results, financial condition, or capital levels. See "Business—Government Regulation of Farmer Mac" for more information about the rules and regulations governing Farmer Mac's activities.

Human Capital Risk

Farmer Mac's ability to attract and retain motivated and qualified employees is critical to the success of its business, and significant or sustained disruption in the continuity of Farmer Mac's employees or executive leaders may materially adversely affect Farmer Mac's business performance, operations, financial condition, or reputation.

Farmer Mac relies on its employees' breadth and depth of knowledge of Farmer Mac and related industries to run its business operations successfully. If Farmer Mac cannot continue to retain and attract motivated and qualified employees or does not have adequate human capital to achieve its business objectives, Farmer Mac's business performance, operations, financial condition, or reputation could be materially adversely affected. A significant disruption in the continuity of Farmer Mac's employees or any significant executive leadership change could also result in a loss of productivity and affect Farmer Mac's ability to successfully execute business strategies by creating uncertainty or instability or requiring Farmer Mac to divert or expend more resources to replace personnel. Loss of key leadership personnel could also damage the public or market perception of Farmer Mac or result in the departure of other executives or key employees. Any of these factors could materially adversely affect Farmer Mac's business performance, operations, financial condition, or reputation.

Any of the risks described in this section could materially and adversely affect Farmer Mac's business, operating results, financial condition, reputation, capital levels, and future earnings. For more information about Farmer Mac's risk management, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management" in Item 7 of this Annual Report on Form 10-K.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

Farmer Mac recognizes the importance of assessing, identifying, and managing risks associated with cybersecurity threats. These risks include the potential for:

- unauthorized access to or acquisition, destruction, alteration, release, theft, or loss of confidential, proprietary, or personal data;
- fraud or extortion;
- financial and economic loss or costs;
- errors in Farmer Mac's financial statements;
- impairment of Farmer Mac's liquidity;
- harm to employees, customers, or vendors;
- liability or service interruptions to customers;
- loss of customers or vendors;
- violation of data protection laws and other litigation and legal risk;
- increased regulatory or legislative scrutiny; and
- reputational damage.

Farmer Mac's process to identify and assess material risks from cybersecurity threats operates alongside Farmer Mac's broader overall risk assessment process that contemplates all company risks. As part of this process, appropriate personnel collaborate with subject matter specialists, as necessary, to gather information to identify and assess material cybersecurity threat risks, their severity, and potential mitigations.

Farmer Mac has implemented a variety of processes, technologies, and controls to aid in its efforts to identify, assess, and manage cybersecurity risks. Farmer Mac's approach includes:

- an enterprise risk management program that includes cybersecurity risk assessment and management and is periodically refreshed;
- security reviews designed to identify risks from many new features, software, and vendors, including a security operations center to monitor our systems;
- a team of trained and experienced security professionals to investigate and remediate cybersecurity incidents;
- regular cybersecurity training for all employees and network users to raise and maintain awareness of cybersecurity risks and best practices;
- a vulnerability management program designed to identify vulnerabilities in the systems and software Farmer Mac uses;
- regular cybersecurity testing, including penetration testing on a periodic basis to allow security researchers to help identify vulnerabilities in Farmer Mac's systems before they mature into real-world cybersecurity threats;
- a third-party service provider risk management program designed to identify and mitigate risks associated with third-party vendors and business partners, which includes pre-engagement diligence, contractual security and notification provisions, and ongoing monitoring, as appropriate;
- a threat intelligence program designed to model and research potential cybersecurity threat actors to identify vulnerabilities and anticipate attack vectors before they are exploited;

- cybersecurity controls designed to segment access to systems and to limit access to sensitive data; and
- patch management controls aimed at reducing system vulnerabilities.

These processes vary in maturity across the business, and Farmer Mac works continually to improve them.

Farmer Mac also maintains a privacy and security incident response program to prepare for, detect, respond to, and recover from cybersecurity incidents. That program includes processes to triage, assess severity for, escalate, contain, investigate, and remediate any cybersecurity incident, as well as to comply with any applicable legal obligations and to mitigate brand and reputational damage. Farmer Mac also conducts regular tabletop exercises to test and fortify the controls of its cybersecurity incident response program. Farmer Mac’s security operations center and incident response team assesses the severity and priority of incidents on a rolling basis, with escalations of cybersecurity incidents provided to Farmer Mac’s management team. If a cybersecurity incident is determined to be a material cybersecurity incident, Farmer Mac’s incident response plan defines the process for any required regulatory disclosures.

Farmer Mac’s risk management approach is supplemented by external and internal enterprise risk management audits, which are designed to test the effectiveness of Farmer Mac’s security controls. Prior cybersecurity incidents have not materially affected Farmer Mac's business strategy, results of operations, or financial condition. Farmer Mac does not believe that there are currently any known risks from cybersecurity threats that are reasonably likely to materially affect its business strategy, results of operations, or financial condition, although the occurrence of both intentional and unintentional incidents could cause a variety of adverse business impacts in the future. For more information on Farmer's Mac's cybersecurity risks see "Operational Risks" in "Risk Factors" in Part I, Item 1A of this report. Those disclosures are incorporated by reference in this section.

Governance

Farmer Mac’s board of directors is actively involved in overseeing the company's cybersecurity risk management. At least once a year, the full board of directors meets with Farmer Mac’s Chief Information Security Officer (“CISO”) to discuss Farmer Mac’s programs and policies related to cybersecurity and risk initiatives and considers them closely both from a risk management perspective and as part of Farmer Mac’s business strategy.

The board has created a dedicated cybersecurity subcommittee of the enterprise risk committee to oversee Farmer Mac’s cybersecurity programs and practices, including the identification and mitigation of security and privacy risks. The cybersecurity subcommittee consists of three members of the enterprise risk committee. Two members of that subcommittee have successfully completed the National Association of Corporate Directors (“NACD”) certificate in cyber-risk oversight program. The other member of the subcommittee is the CEO of an energy company and has direct experience managing cyber risk and cybersecurity incidents in that capacity. The chair of the board audit committee has also successfully completed the NACD certificate in cyber-risk oversight program (but is not a member of the cybersecurity subcommittee). The cybersecurity subcommittee typically meets on a monthly basis with the CISO and other members of Farmer Mac's management team to discuss the performance and effectiveness of Farmer Mac's cyber program and to receive updates on cybersecurity risks, any cybersecurity incidents, and major cybersecurity initiatives.

The materials provided to Farmer Mac's cybersecurity subcommittee and discussed in the meetings include:

- updates on Farmer Mac's data security posture;
- results from third-party assessments and testing;
- progress towards predetermined risk-mitigation-related goals;
- Farmer Mac's incident response plan; and
- information about cybersecurity threat risks or incidents and developments, as well as the steps management has taken to respond to those risks or incidents.

At each regular quarterly meeting of the board enterprise risk committee, the cybersecurity subcommittee reviews a summary of the information discussed in the most recent cybersecurity subcommittee meetings. The board of directors has determined that cybersecurity is a priority area of focus and regularly engages with the CISO and other members of senior management in substantial discussions in board and committee meetings to address cybersecurity topics relating to risk management, compliance, strategy, innovation, and governance. Material cybersecurity threat risks are also considered during separate board and committee meeting discussions of important matters like enterprise risk management, operational budgeting, business continuity planning, business transactions and acquisitions, and brand management.

Farmer Mac's CISO manages Farmer Mac's cybersecurity program, including the identification, evaluation, and prioritization of security risks, as well as the company's response to security incidents. The CISO has more than 19 years of experience in cybersecurity and information technology and holds a Master's degree in Business Administration with a focus on Information Technology. The CISO also holds a Certified Information Security Manager (CISM) certification, which is an advanced certification indicating that an individual possesses the knowledge and experience required to develop and manage an enterprise information security program. The CISO reports to Farmer Mac's Senior Vice President – Enterprise Risk Officer, who in turn reports to the Chief Executive Officer.

Members of senior management have regular meetings with the CISO and other members of Farmer Mac's information technology team to discuss and monitor the prevention, mitigation, detection, and remediation of cybersecurity incidents. The participants in these meetings also discuss their management of, and participation in, the cybersecurity risk management and strategy processes described in this report, including the operation of Farmer Mac's incident response plan. Farmer Mac provides quarterly cybersecurity training to all employees, board members, and users of Farmer Mac's technology assets. Employees with elevated privileges within the computing environment also receive specialized training tailored to their job responsibilities. Farmer Mac tracks the metrics from the cybersecurity training program and includes the results in dashboard reports shared and discussed with senior management, the board enterprise risk committee, and the board cybersecurity subcommittee.

Item 2. Properties

Farmer Mac maintains its principal office at 1999 K Street, N.W., 4th Floor, Washington, D.C. 20006, under a lease that ends on August 30, 2024. During 2023, Farmer Mac signed a new lease for office space at 2100 Pennsylvania Avenue, N.W., Washington, D.C., which begins on September 1, 2024 and ends on April 30, 2036. Under the terms of that lease, Farmer Mac has had access to the property since May 2023 and may take possession of its new office space upon completion of the agreed-upon buildout of tenant improvements, which is expected before September 1, 2024. Farmer Mac also maintains another office location at 9169 Northpark Drive, Johnston, Iowa 50131, under an amended lease that began on

October 1, 2017 and ends on August 31, 2027. Farmer Mac believes that its offices (including the anticipated office space under Farmer Mac's new lease) are suitable and adequate for its current and anticipated needs for the near future.

Item 3. Legal Proceedings

None.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

(a) Farmer Mac has three classes of common stock outstanding – Class A voting common stock, Class B voting common stock, and Class C non-voting common stock. Ownership of Class A voting common stock is restricted to banks, insurance companies, and other financial institutions or similar entities that are not institutions of the FCS. Ownership of Class B voting common stock is restricted to institutions of the FCS. There are no ownership restrictions on the Class C non-voting common stock. In the original public offering of the Class A and Class B voting common stock, Farmer Mac reserved the right to redeem at book value any shares of either class held by an ineligible holder.

Farmer Mac's Class A voting common stock and Class C non-voting common stock are listed on the New York Stock Exchange under the symbols AGM.A and AGM, respectively. The Class B voting common stock, which has a limited market and trades infrequently, is not listed or quoted on any exchange or other quotation system, and Farmer Mac is not aware of any publicly available quotations or prices for that class of common stock.

As of February 5, 2024, Farmer Mac had 833 registered owners of the Class A voting common stock, 75 registered owners of the Class B voting common stock, and 789 registered owners of the Class C non-voting common stock.

The dividend rights of all three classes of Farmer Mac's common stock are the same, and dividends may be paid on common stock only when, as, and if declared by Farmer Mac's board of directors in its sole discretion, subject to compliance with applicable capital requirements and payment of dividends on any outstanding preferred stock. On February 24, 2022, Farmer Mac's board of directors declared a dividend of $0.95 per share on Farmer Mac's common stock payable for first quarter 2022. That dividend was paid quarterly through fourth quarter 2022. On February 22, 2023, Farmer Mac's board of directors declared a dividend of $1.10 per share on Farmer Mac's common stock payable for first quarter 2023. That dividend was paid quarterly through fourth quarter 2023. On February 21, 2024, Farmer Mac's board of directors declared a dividend of $1.40 per share on Farmer Mac's common stock payable for first quarter 2024. See "Business—Financing—Equity Issuance" for more information on Farmer Mac's common stock.

The quarterly dividend of $1.40 per share on all three classes of common stock for first quarter 2024 represents an increase of $0.30 per common share, or 27%, over the quarterly dividend payout in 2023. In deciding to increase Farmer Mac's common stock dividend payout, the board of directors considered Farmer Mac's strong capital position and the consistency of and outlook for earnings, balanced against the need for capital to fund the significant growth objectives identified in the company's strategic plan and to meet regulatory requirements and metrics established by the board of directors. These actions are also consistent with Farmer Mac's goal of providing a competitive return on its common stockholders' investments through the payment of cash dividends.

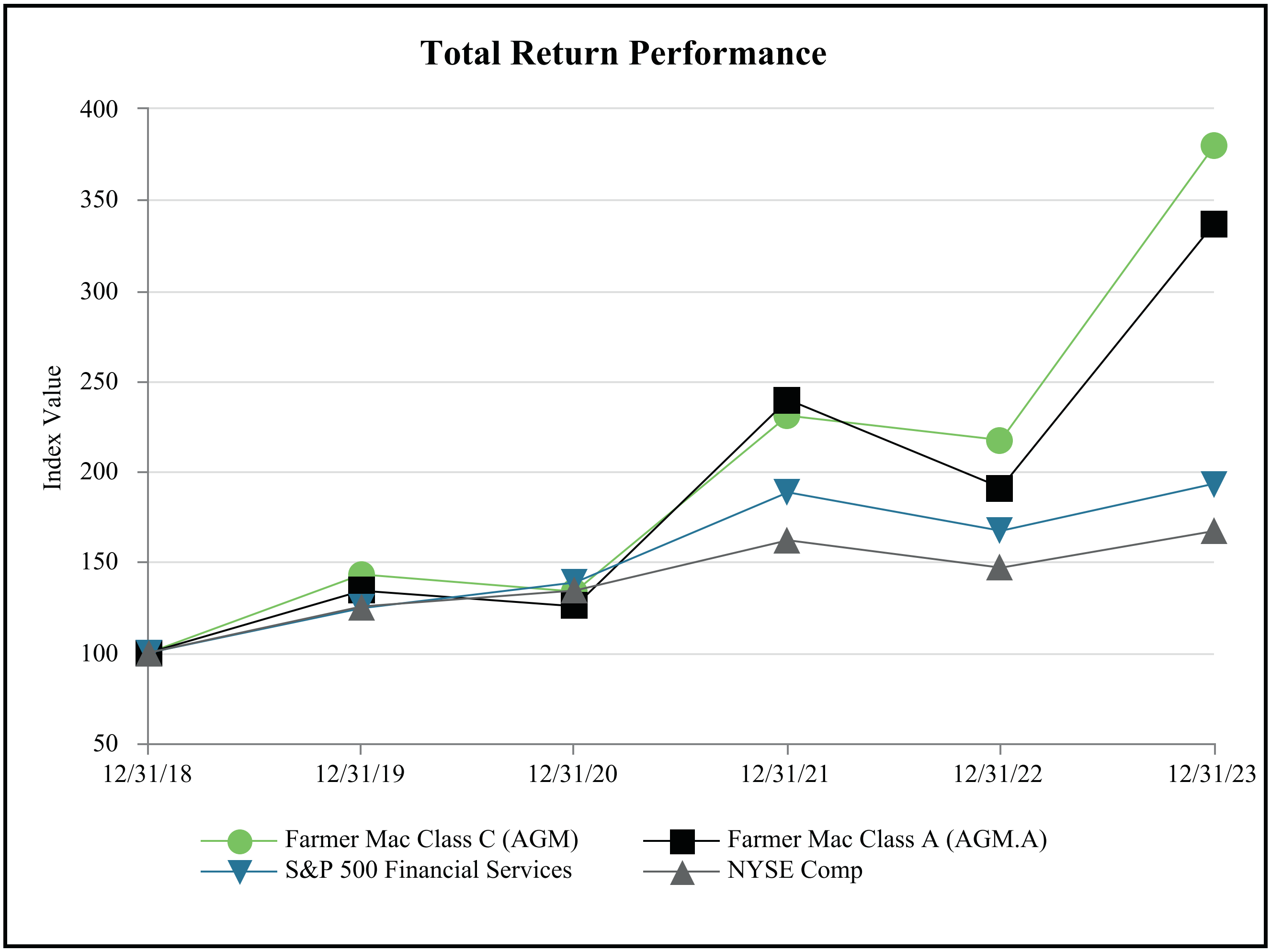
The declaration and payment of future dividends to holders of Farmer Mac's common stock are, however, at the discretion of Farmer Mac's board of directors and depend on many factors, including Farmer Mac's financial condition, actual results of operations and earnings, the capital needs of Farmer Mac's business, regulatory requirements, and other factors that Farmer Mac's board deems relevant. Farmer Mac's ability to pay dividends on its common stock is also subject to the payment of dividends on its outstanding preferred stock. Applicable FCA regulations also require Farmer Mac to provide FCA with 15 days' advance notice of certain capital distributions. Farmer Mac's ability to declare and pay dividends could be restricted if it were to fail to comply with applicable capital requirements. See Note 9 to the consolidated financial statements for more information about Farmer Mac's capital position and see "Business—Government Regulation of Farmer Mac—Regulation—Capital Standards" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Capital Requirements" for more information on the capital requirements applicable to Farmer Mac.

Information about securities authorized for issuance under Farmer Mac's equity compensation plans appears under "Equity Compensation Plans" in Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024. That portion of the definitive proxy statement is incorporated by reference into this Annual Report on Form 10-K.

Farmer Mac is a federally chartered instrumentality of the United States, and its common stock is exempt from registration under Section 3(a)(2) of the Securities Act. One type of transaction related to Farmer Mac's common stock occurred during fourth quarter 2023 that was not registered under the Securities Act and not otherwise reported on a Current Report on Form 8-K:

- In October 2023, consistent with 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 420 shares of Class C non-voting common stock to the seven directors who elected to receive such stock in lieu of a portion of their cash retainers. The number of shares issued to the directors was calculated based on a price of $154.30 per share, which was the closing price of the Class C non-voting common stock on September 30, 2023, the last business day of the third quarter, as reported by the New York Stock Exchange.

Performance Graph. The following graph compares the performance of Farmer Mac's Class A voting common stock and Class C non-voting common stock with the performance of the New York Stock Exchange Composite Index ("NYSE Comp") and the Standard & Poor's 500 Financial Services Index ("S&P 500 Financial Services Index") over the period from December 31, 2018 to December 31, 2023. The S&P 500 Financial Services Index was renamed in 2023 and was formerly known as the Standard & Poor's 500 Diversified Financials Index. The graph assumes that $100 was invested on December 31, 2018 in each of: Farmer Mac's Class A voting common stock; Farmer Mac's Class C non-voting common stock; the NYSE Composite Index; and the S&P 500 Financial Services Index. The graph also assumes that all dividends were reinvested into the same securities throughout the past five years. Farmer Mac obtained the information in the performance graph from S&P Global Market Intelligence.



This performance graph shall not be deemed to be "soliciting material" or to be "filed" with the SEC, and this performance graph shall not be incorporated by reference into any of Farmer Mac's filings under the Securities Act or the Securities Exchange Act of 1934 and related regulations, or any other document, whether made before or after the date of this report and despite any general incorporation language contained in a filing or document (except to the extent Farmer Mac specifically incorporates this section by reference into a filing or document).

(b) Not applicable.

(c) None.

Item 6. [Reserved].

Item 7. 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 year ended December 31, 2023. 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 Farmer Mac's consolidated financial statements and the related notes to the consolidated financial statements for the fiscal years ended December 31, 2023, 2022, and 2021.

Overview

Farmer Mac is a mission-focused, purpose-driven company determined to drive economic opportunity and prosperity by increasing the accessibility of financing for American agriculture and rural infrastructure. As the nation's secondary market for agricultural and rural infrastructure loans, we help strengthen and connect rural America by providing a broad array of financial solutions to lenders that support flexible low-cost financing to farmers, ranchers, agribusinesses, renewable energy projects, rural utilities (including telecommunications, fiber, and broadband projects), 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.

During 2023:

- we continued to increase net income and core earnings;
- we maintained strong liquidity in our investment portfolio well above regulatory requirements;
- we maintained our strong capital position, well above regulatory requirements, and uninterrupted access to the debt capital markets, which historically have not been subject to the same short-term disruptions and liquidity concerns experienced by institutions that rely primarily on deposits to fund their assets; and
- we provided $8.3 billion in liquidity and lending capacity to lenders serving rural America.

Farmer Mac's performance during 2023, described in more detail below, reflects the success of our continued focus on pursuing new channels and innovative ways to further our mission to increase the accessibility of financing for American agriculture and rural infrastructure. Despite recent macroeconomic concerns such as inflation, failures and liquidity concerns in the banking industry, rising interest rates, and geopolitical conflicts, Farmer Mac continued to deliver solid financial results. These financial results for 2023 reflected a variety of factors, including:

- our disciplined approach to interest rate risk management that helps to protect earnings from the effects of interest rate volatility and has been accretive to Farmer Mac during periods of rising interest rates;

- effective capital strategies that resulted in advantageous funding in an elevated interest rate environment in the current period;
- an increase in outstanding business volume at higher spreads while credit quality improved; and
- the resilience of the farm economy, as producers had benefited from healthy farm incomes and liquidity from relatively high commodity prices in 2021 and 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 Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Net income attributable to common stockholders	$ 172,838	$ 150,979	$ 111,412
Core earnings	171,156	124,314	113,570

The $21.9 million year-over-year increase in net income attributable to common stockholders was due to a $44.7 million after-tax increase in net interest income and a $2.9 million after-tax increase in guarantee fees. These factors were partially offset by a $15.6 million after-tax decrease in the fair value of undesignated financial derivatives and a $12.1 million after-tax increase in operating expenses.

The $39.6 million year-over-year increase in net income attributable to common stockholders for 2022 compared to 2021 was due to a $38.7 million after-tax increase in net interest income and a $17.6 million after-tax increase in the fair value of undesignated financial derivatives. These factors were partially offset by a $5.2 million after-tax decrease related to the non-recurrence of the gain on the sale of mortgage loans that occurred in the prior period, a $6.6 million increase in operating expenses, a $2.5 million increase in preferred stock dividends, and a $2.4 million increase in our provision for credit losses.

The $46.8 million year-over-year increase in core earnings was due to a $56.4 million after-tax increase in net effective spread, partially offset by a $12.1 million after-tax increase in operating expenses.

The $10.7 million year-over-year increase in core earnings for 2022 compared to 2021 was due to a $27.5 million after-tax increase in net effective spread. This factor was partially offset by a $5.2 million after-tax decrease related to the non-recurrence of the gain on the sale of mortgage loans that occurred in the prior period, a $6.6 million increase in operating expenses, a $2.5 million increase in preferred stock dividends, and a $2.4 million increase in our provision for credit losses.

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 Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Net interest income	$ 327,547	$ 270,940	$ 221,951
Net interest yield %	1.15 %	1.04 %	0.94 %
Net effective spread	$ 326,980	$ 255,529	$ 220,668
Net effective spread %	1.18 %	1.02 %	0.98 %

The $56.6 million year-over-year increase in net interest income was primarily due to a $48.9 million decrease in funding costs and a $19.9 million increase related to net new business volume. The decrease in funding costs was primarily due to our disciplined funding strategies and higher nominal interest rates that have led to an upward repricing of our excess long-term capital that we raised when interest rates were at historical lows and is held in our investment portfolio. The factors that contributed to the increase in net interest income were partially offset by an $11.2 million decrease in the fair value of derivatives designated in fair value hedge accounting relationships (designated financial derivatives). In percentage terms, the 0.11% increase was primarily attributable to a decrease of 0.16% in funding costs and a decrease of 0.04% in net fair value changes from designated financial derivatives.

The $49.0 million year-over-year increase in net interest income for 2022 compared to 2021 was primarily attributable to a $21.9 million increase from net new business volume and a $21.4 million decrease in funding costs, due to increasing yields on interest-earning assets on our short-term investments that are funded by non-interest bearing excess equity, and a $6.1 million increase in the fair value of designated financial derivatives. In percentage terms, the year-over-year 0.10% increase was primarily attributable to a decrease of 0.08% in funding costs and an increase of 0.02% in net fair value changes from financial derivatives designated in hedge accounting relationships (designated financial derivatives).

The $71.5 million year-over-year increase in net effective spread was primarily due to a $54.6 million decrease in non-GAAP funding costs, due to the same factors mentioned above that decreased our funding costs, and a $20.6 million increase related to net new business volume. In percentage terms, the year-over-year increase of 0.16% was primarily attributable to a decrease in non-GAAP funding costs.

The $34.9 million year-over-year increase in net effective spread in dollars for 2022 compared to 2021 was primarily due to a $23.6 million increase from net new business volume, a $7.7 million decrease in non-GAAP funding costs, due to increasing yields on interest-earning assets on our short-term investments that are funded by non-interest bearing excess equity, a $2.4 million increase in net servicing revenue, and a $0.9 million increase in cash-basis interest income. In percentage terms, the year-over-year increase of 0.04% was primarily attributable to a decrease of 0.03% in non-GAAP funding costs and an increase of 0.01% in cash-basis interest income.

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 10 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 $28.5 billion as of December 31, 2023, a net increase of $2.5 billion from December 31, 2022 after taking into account all new business, maturities, and paydowns on existing assets. The net increase was primarily attributable to a net increase of $1.4 billion in the Rural Infrastructure Finance line of business and a net increase of $1.2 billion 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	
	December 31, 2023	December 31, 2022
	(in thousands)	
Core capital	$ 1,452,008	$ 1,322,801
Capital in excess of minimum capital level required	589,399	516,882

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- and off-balance sheet substandard assets, in dollars and as a percentage of the respective portfolio as of December 31, 2023 and 2022:

Table 4

	On-Balance Sheet		Off-Balance Sheet	
	Substandard Assets	% of Portfolio	Substandard Assets	% of Portfolio
	(dollars in thousands)			
December 31, 2023	$ 152,865	2.0 %	$ 33,086	1.0 %
December 31, 2022	169,667	2.3 %	39,733	1.2 %
Increase/(decrease) from prior year-ending	$ (16,802)	(0.3)%	$ (6,647)	(0.2)%

The decrease of $16.8 million in on-balance sheet substandard assets during 2023 was primarily driven by the full payoff of a substandard agricultural storage and processing loan. The $6.6 million decrease in substandard assets in our off-balance sheet portfolios during 2023 was primarily due to credit upgrades in livestock and crops, and was partially offset by credit downgrades in permanent plantings and part-time farms.

There was one substandard asset with an outstanding balance of $29.4 million in the Rural Infrastructure Finance portfolio as of December 31, 2023, and there were no substandard assets as of December 31, 2022.

For an analysis of current loan-to-value ratios across substandard and other internally assigned risk ratings, see Table 26 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 the on- and off-balance sheet Agricultural Finance portfolios in dollars and as a percentage of the respective balance sheet category as of December 31, 2023 and 2022:

Table 5

	On-Balance Sheet		Off-Balance Sheet	
	90-Day Delinquencies	% of Portfolio	90-Day Delinquencies	% of Portfolio
	(dollars in thousands)			
December 31, 2023	$ 32,893	0.42 %	$ 1,784	0.05 %
December 31, 2022	39,681	0.53 %	3,817	0.12 %
Increase/(decrease) from prior year-ending	$ (6,788)	(0.11)%	$ (2,033)	(0.07)%

On-balance sheet Agricultural Finance assets 90 or more days delinquent decreased in agricultural storage and processing and was partially offset by increases in permanent plantings, crops, livestock, and part-time farms. Off-balance sheet Agricultural Finance assets 90 days or more delinquent decreased in permanent plantings and livestock and was partially offset by increases in crops and 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 December 31, 2023.

As of both December 31, 2023 and 2022, 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."

Critical Accounting Estimates

The preparation of Farmer Mac's consolidated financial statements in conformity with GAAP requires the use of estimates and assumptions that affect the amounts reported in the consolidated financial statements and related notes for the periods presented. Farmer Mac considers an accounting estimate made in accordance with GAAP to be critical when it involves a significant level of estimation uncertainty and it has had or is likely to have a material impact on our financial condition or results of operations.

The accounting estimate that Farmer Mac considers to be critical in the preparation of its consolidated financial statements is the estimation of the fair value of AgVantage Securities (AgVantage). Farmer Mac considers the fair value of AgVantage Securities that are classified as held-to-maturity (AgVantage HTM) because of their impact on the company's fair value disclosures in Note 5 to the consolidated financial statements – Farmer Mac Guaranteed Securities and USDA Securities and Note 13 to the consolidated financial statements – Fair Value Disclosures. Farmer Mac considers the fair value of AgVantage Securities that are classified as available-for-sale (AgVantage AFS) to be a critical estimate due to the significance of the periodic measurement of mark-to-market adjustments relative to the company's total assets, comprehensive income, and equity. Farmer Mac also considers the fair value of AgVantage to be a critical accounting estimate because Farmer Mac applies a discount rate in calculating the net present value of future expected cash flows that is both significant to the estimate of their fair value and unobservable in the market. Farmer Mac relies upon this significant unobservable input to estimate the fair value of AgVantage because there are no observable transactions in these securities in the market.

Farmer Mac's AgVantage HTM amortized cost was $4.2 billion and $1.0 billion as of December 31, 2023 and 2022, respectively. The fair value of AgVantage HTM had net unrealized losses in the amount of $34.8 million and $53.7 million as of December 31, 2023 and 2022, respectively. See Note 5 to the consolidated financial statements – Farmer Mac Guaranteed Securities and USDA Securities for more information.

Farmer Mac's AgVantage AFS fair value was $5.5 billion and $7.6 billion as of December 31, 2023 and 2022, respectively. The fair value of AgVantage AFS had accumulated net unrealized losses in the amount of $293.0 million and $408.9 million as of December 31, 2023 and 2022, respectively. See Note 5 to the consolidated financial statements – Farmer Mac Guaranteed Securities and USDA Securities for more information.

Farmer Mac applies discount rates that are commensurate with the risks involved to estimate the fair value measurement of AgVantage AFS. As of December 31, 2023, Farmer Mac applied discount rates that ranged from 4.7% to 5.4% (with a weighted average of 5.0%). As of December 31, 2022, Farmer Mac applied discount rates that ranged from 4.7% to 6.1% (with a weighted average of 5.1%).

Use of different discount rates than those selected by Farmer Mac may result in materially different estimates of fair value for AgVantage AFS. Farmer Mac selects the discount rate for each AgVantage AFS security by analyzing credit default swap levels and the long-term credit outlook of Farmer Mac's major counterparties and estimating an appropriate credit spread relative to U.S. Treasury yields. The periodic measurement of fair value and underlying discount rate methodology is subject to Farmer Mac’s internal controls and review by management. As of December 31, 2023, a 0.50% increase in the discount rates used to determine the fair value of AgVantage AFS would decrease the overall GAAP carrying value by approximately 2.01%. See Note 13 to the consolidated financial statements – Fair Value Disclosures for more information.

For a description of Farmer Mac’s accounting policy for fair value measurements, see Note 2(n) to the consolidated financial statements – Significant Accounting Policies, Fair Value Measurements.

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, in prior periods, we excluded any losses on retirement of preferred stock from core earnings and core earnings per share. Similar transactions may reoccur in future periods. 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 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 10 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 Years Ended December 31,		
	2023	2022	2021
	(in thousands, except per share amounts)		
Net income attributable to common stockholders	$ 172,838	$ 150,979	$ 111,412
Less reconciling items:			
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 13)	5,142	13,495	(1,431)
(Losses)/gains on hedging activities due to fair value changes	(5,394)	5,343	(1,810)
Unrealized gains/(losses) on trading securities	1,979	(917)	(115)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	175	39	130
Net effects of terminations or net settlements on financial derivatives	227	15,794	494
Income tax effect related to reconciling items	(447)	(7,089)	574
Sub-total	1,682	26,665	(2,158)
Core earnings	$ 171,156	$ 124,314	$ 113,570
Composition of Core Earnings:			
Revenues:			
Net effective spread[(1)]	$ 326,980	$ 255,529	$ 220,668
Guarantee and commitment fees[(2)]	18,928	18,144	17,533
Gains on sale of mortgage loans	—	—	6,539
Other[(3)]	3,299	1,684	1,680
Total revenues	349,207	275,357	246,420
Credit related expense (GAAP):			
Provision for/(release of) losses	1,136	806	(2,187)
REO operating expenses	—	819	—
Total credit related expense	1,136	1,625	(2,187)
Operating expenses (GAAP):			
Compensation and employee benefits	58,914	48,766	42,847
General and administrative	34,963	29,772	27,507
Regulatory fees	3,222	3,269	3,062
Total operating expenses	97,099	81,807	73,416
Net earnings	250,972	191,925	175,191
Income tax expense[(4)]	52,651	40,446	36,944
Preferred stock dividends (GAAP)	27,165	27,165	24,677
Core earnings	$ 171,156	$ 124,314	$ 113,570
Core earnings per share:			
Basic	$ 15.80	$ 11.52	$ 10.56
Diluted	$ 15.65	$ 11.42	$ 10.47
Weighted-average shares:			
Basic	10,829	10,791	10,758
Diluted	10,937	10,883	10,846

(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 10 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 Years Ended December 31,		
	2023	2022	2021
	(in thousands, except per share amounts)		
GAAP - Basic EPS	$ 15.97	$ 14.00	$ 10.36
Less reconciling items:			
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 13)	0.49	1.25	(0.13)
(Losses)/gains on hedging activities due to fair value changes	(0.50)	0.50	(0.17)
Unrealized gains/(losses) on trading securities	0.18	(0.08)	(0.01)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	0.02	—	0.01
Net effects of terminations or net settlements on financial derivatives	0.02	1.47	0.04
Income tax effect related to reconciling items	(0.04)	(0.66)	0.06
Sub-total	0.17	2.48	(0.20)
Core Earnings - Basic EPS	$ 15.80	$ 11.52	$ 10.56
Shares used in per share calculation (GAAP and Core Earnings)	10,829	10,791	10,758

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

	For the Years Ended December 31,		
	2023	2022	2021
	(in thousands, except per share amounts)		
GAAP - Diluted EPS	$ 15.81	$ 13.87	$ 10.27
Less reconciling items:			
Gains/(losses) on undesignated financial derivatives due to fair value changes (see Table 13)	0.47	1.24	(0.13)
(Losses)/gains on hedging activities due to fair value changes	(0.49)	0.49	(0.17)
Unrealized gains/(losses) on trading securities	0.18	(0.08)	(0.01)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	0.02	—	0.01
Net effects of terminations or net settlements on financial derivatives	0.02	1.45	0.05
Income tax effect related to reconciling items	(0.04)	(0.65)	0.05
Sub-total	0.16	2.45	(0.20)
Core Earnings - Diluted EPS	$ 15.65	$ 11.42	$ 10.47
Shares used in per share calculation (GAAP and Core Earnings)	10,937	10,883	10,846

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) (Losses)/gains on hedging activities due to fair value changes.

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.

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 years ended December 31, 2023, 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 (single-class) and for which Farmer Mac guarantees all classes of securities issued 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 8

	For the Year Ended								
	December 31, 2023			December 31, 2022			December 31, 2021		
	Average Balance	Income/ Expense	Average Rate	Average Balance	Income/ Expense	Average Rate	Average Balance	Income/ Expense	Average Rate
	(dollars in thousands)								
Interest-earning assets:									
Cash and investments	$ 5,894,515	$ 287,144	4.87 %	$ 5,236,118	$ 82,659	1.58 %	$ 4,726,552	$ 18,660	0.39 %
Loans, Farmer Mac Guaranteed Securities and USDA Securities(1)	21,739,403	1,070,932	4.93 %	19,882,489	602,537	3.03 %	17,838,238	368,330	2.06 %
Total interest-earning assets	27,633,918	1,358,076	4.91 %	25,118,607	685,196	2.73 %	22,564,790	386,990	1.72 %
Funding:									
Notes payable due within one year	3,274,799	150,666	4.60 %	2,876,452	48,481	1.69 %	3,779,689	3,820	0.10 %
Notes payable due after one year(2)	22,631,904	884,034	3.91 %	20,987,990	370,014	1.76 %	18,004,757	166,083	0.92 %
Total interest-bearing liabilities(3)	25,906,703	1,034,700	3.99 %	23,864,442	418,495	1.75 %	21,784,446	169,903	0.78 %
Net non-interest-bearing funding	1,727,215	—		1,254,165	—		780,344	—	
Total funding	27,633,918	1,034,700	3.74 %	25,118,607	418,495	1.67 %	22,564,790	169,903	0.75 %
Net interest income/yield prior to consolidation of certain trusts	27,633,918	323,376	1.17 %	25,118,607	266,701	1.06 %	22,564,790	217,087	0.96 %
Net effect of consolidated trusts(4)	873,181	4,171	0.48 %	850,916	4,239	0.50 %	1,049,521	4,864	0.46 %
Net interest income/yield	$ 28,507,099	$ 327,547	1.15 %	$ 25,969,523	$ 270,940	1.04 %	$23,614,311	$ 221,951	0.94 %

(1) Excludes interest income of $34.2 million, $31.7 million, and $39.0 million in 2023, 2022, and 2021, respectively, related to consolidated trusts with beneficial interests owned by third parties (single-class).

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

(3) Excludes interest expense of $30.0 million, $27.4 million, and $34.1 million in 2023, 2022, and 2021, respectively, related to consolidated trusts with beneficial interests owned by third parties (single-class).

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

The $56.6 million year-over-year increase in net interest income was primarily due to a $48.9 million decrease in funding costs and a $19.9 million increase related to net new business volume. The decrease in funding costs was due to our disciplined funding strategies and higher nominal interest rates that have led to an upward repricing of our excess long-term capital that we raised when interest rates were at historical lows and is held in our investment portfolio. The factors that contributed to an increase in net interest income were partially offset by an $11.2 million decrease in the fair value of derivatives designated in fair value hedge accounting relationships (designated financial derivatives). In percentage terms, the 0.11% increase was primarily attributable to a decrease of 0.16% in funding costs and a decrease of 0.04% in net fair value changes from designated financial derivatives.

For 2022 compared to 2021, the $49.0 million year-over-year increase in net interest income was primarily attributable to a $21.9 million increase from net new business volume, a $21.4 million decrease in funding costs due to increasing yields on interest-earning assets on our short-term investments that are funded by non-interest bearing excess equity, and a $6.1 million increase in the fair value of designated financial derivatives. In percentage terms, the year-over-year 0.10% increase was primarily attributable to a decrease of 0.08% in funding costs and an increase of 0.02% in net fair value changes from financial derivatives designated in hedge accounting relationships (designated financial derivatives).

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 prior 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 9

	2023 vs. 2022			2022 vs. 2021		
	Increase/(Decrease) Due to			Increase/(Decrease) Due to		
	Rate	Volume	Total	Rate	Volume	Total
	(in thousands)					
Income from interest-earning assets:						
Cash and investments	$ 192,859	$ 11,626	$ 204,485	$ 61,778	$ 2,221	$ 63,999
Loans, Farmer Mac Guaranteed Securities and USDA Securities	407,548	60,847	468,395	188,111	46,096	234,207
Total	600,407	72,473	672,880	249,889	48,317	298,206
Expense from other interest-bearing liabilities	577,519	38,686	616,205	230,931	17,661	248,592
Change in net interest income prior to consolidation of certain trusts(1)	$ 22,888	$ 33,787	$ 56,675	$ 18,958	$ 30,656	$ 49,614

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

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 (1) the amortization of premiums and discounts on assets consolidated at fair value, (2) the net effects of consolidated trusts with beneficial interests owned by third parties (single-class), and (3) 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 10

	For the Years Ended December 31,					
	2023		2022		2021	
	Dollars	Yield	Dollars	Yield	Dollars	Yield
	(dollars in thousands)					
Net interest income/yield	$ 327,547	1.15 %	$ 270,940	1.04 %	$ 221,951	0.94 %
Net effects of consolidated trusts	(4,171)	0.02 %	(4,239)	0.02 %	(4,864)	0.02 %
Expense related to undesignated financial derivatives	(4,845)	(0.02)%	(7,756)	(0.03)%	2,841	0.01 %
Amortization of premiums/discounts on assets consolidated at fair value	(175)	— %	(24)	— %	(45)	— %
Amortization of losses due to terminations or net settlements on financial derivatives	3,230	0.01 %	2,413	0.01 %	446	— %
Fair value changes on fair value hedge relationships	5,394	0.02 %	(5,805)	(0.02)%	339	0.01 %
Net effective spread	$ 326,980	1.18 %	$ 255,529	1.02 %	$ 220,668	0.98 %

The $71.5 million year-over-year increase in net effective spread was primarily due to a $54.6 million decrease in non-GAAP funding costs, due to our disciplined funding strategies and higher nominal interest rates that have led to an upward repricing of our excess capital that is held in our short-term investment portfolio, and a $20.6 million increase related to net new business volume. In percentage terms, the year-over-year increase of 0.16% was primarily attributable to a decrease in non-GAAP funding costs.

For 2022 compared to 2021, the $34.9 million year-over-year increase in net effective spread in dollars was primarily due to a $23.6 million increase from net new business volume, a $7.7 million decrease in non-GAAP funding costs due to increasing yields on interest-earning assets on our short-term investments that are funded by non-interest bearing excess equity, a $2.4 million increase in net servicing revenue, and a $0.9 million increase in cash-basis interest income. In percentage terms, the year-over-year increase of 0.04% was primarily attributable to an decrease of 0.03% in non-GAAP funding costs and an increase of 0.01% in cash-basis interest income.

See Note 14 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-year period ended December 31, 2023:

Table 11

	Allowance for Losses	Reserve for Losses	Total Allowance for Losses
		(in thousands)	
Balance as of December 31, 2020	$ 14,298	$ 3,277	$ 17,575
Release of losses	(860)	(1,327)	(2,187)
Recovery	1,054	—	1,054
Balance as of December 31, 2021	$ 14,492	$ 1,950	$ 16,442
Provision for/(release of) losses	1,323	(517)	806
Charge-offs	(84)	—	(84)
Balance as of December 31, 2022	$ 15,731	$ 1,433	$ 17,164
Provision for losses	858	278	1,136
Balance as of December 31, 2023	$ 16,589	$ 1,711	$ 18,300

See Notes 8 and 12 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 2023, we recorded a $1.1 million net provision to the total allowance for losses primarily as a result of one rural infrastructure loan that was downgraded to substandard during the year, partially offset by an allowance for losses release related to a single collateral dependent agricultural storage and processing loan that fully paid off during the year.

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 years ended December 31, 2023, 2022, and 2021:

Table 12

	For the Years Ended December 31,		
	2023	2022	2021
	(dollars in thousands)		
Contractual guarantee and commitment fees	$ 15,084	$ 14,235	$ 12,669
Guarantee obligation amortization	4,331	5,913	7,257
Guarantee asset fair value changes	(2,703)	(7,108)	(7,257)
Guarantee and commitment fee income	$ 16,712	$ 13,040	$ 12,669

Guarantee and commitment fees increased for the year ended December 31, 2023 compared to 2022, which was due to increases in the average outstanding balance of LTSPCs during the period. As adjusted for the core earnings presentation, guarantee and commitment fees were $18.9 million for the year ended December 31, 2023, compared to $18.1 million and $17.5 million for the years ended December 31, 2022, and 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. Farmer Mac has also excluded guarantee asset fair value changes from the presentation of core earnings 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 on financial derivatives. The components of gains and losses on financial derivatives for the years ended December 31, 2023, 2022, and 2021 are summarized in the following table:

Table 13

	For the Years Ended December 31,		
	2023	2022	2021
	(dollars in thousands)		
Gains/(losses) due to fair value changes	$ 5,142	$ 13,495	$ (1,431)
Accrual of contractual payments	(4,845)	(7,756)	2,841
Gains/(losses) due to terminations or net settlements	2,585	16,892	(1,086)
Gains on financial derivatives	$ 2,882	$ 22,631	$ 324

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 income or 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. See Note 6 to the consolidated financial statements for more information about Farmer Mac's financial derivatives.

Gains on Sale of Mortgage Loans

Table 14

	For the Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Gains on sale of mortgage loans	$ —	$ —	$ 6,539

In 2021, Farmer Mac executed a structured securitization of Farm & Ranch loans that resulted in a gain of $6.5 million from the sale of the pool of mortgage loans into the securitization vehicle.

Operating Expenses. The components of operating expenses for the years ended December 31, 2023, 2022, and 2021 are summarized in the following table:

Table 15

	For the Years Ended December 31,		
	2023	2022	2021
		(dollars in thousands)	
Compensation and employee benefits	$ 58,914	$ 48,766	$ 42,847
General and administrative	34,963	29,772	27,507
Regulatory fees	3,222	3,269	3,062
Total Operating Expenses	$ 97,099	$ 81,807	$ 73,416

Compensation and Employee Benefits. The increase in compensation and employee benefits expenses for the year ended December 31, 2023 compared to 2022 was largely due to increased headcount. The increase in compensation and employee benefits expenses for 2022 compared to 2021 was due to increased headcount (full year impact of 32 net new hires in 2021 and 5 net new hires in 2022) and increased executive stock compensation.

General and Administrative Expenses (G&A). The increase in G&A expenses for the year ended December 31, 2023 compared to 2022 was primarily due to increased spending on software licenses and information technology and other consultants to support growth and strategic initiatives. One of those initiatives is a multi-year effort to replace Farmer Mac's platform for securities trades and to implement a treasury management system. That initiative is expected to be completed during the first half of 2024.

Income Tax Expense. The following table presents income tax expense and the effective income tax rate for the years ended December 31, 2023, 2022, and 2021:

Table 16

	For the Years Ended December 31,		
	2023	2022	2021
	(dollars in thousands)		
Income tax expense	$ 53,098	$ 47,535	$ 36,372
Effective tax rate	21.0 %	21.1 %	21.1 %

Business Volume.

The following table sets forth the net growth or decrease in Farmer Mac's lines of business for the years ended December 31, 2023 and 2022:

Table 17

Net New Business Volume

	On or Off Balance Sheet	For the Years Ended December 31, 2023 Net Growth/ (Decrease)	For the Years Ended December 31, 2022 Net Growth/ (Decrease)
		(in thousands)	
Agricultural Finance:			
Farm & Ranch:			
Loans	On-balance sheet	$ (17,300)	$ 375,680
Loans held in consolidated trusts:			
Beneficial interests owned by third-party investors (single-class)[1]	On-balance sheet	(44,006)	(33,705)
Beneficial interests owned by third-party investors (structured)[1]	On-balance sheet	264,691	296,658
IO-FMGS[2]	On-balance sheet	(1,213)	(1,675)
USDA Securities	On-balance sheet	(38,430)	(38,504)
AgVantage Securities[1]	On-balance sheet	230,000	880,000
LTSPCs and unfunded loan commitments	Off-balance sheet	177,634	235,155
Other Farmer Mac Guaranteed Securities[3]	Off-balance sheet	(48,351)	(77,405)
Loans serviced for others	Off-balance sheet	556,984	(2,051)
Total Farm & Ranch		**$ 1,080,009**	**$ 1,634,153**
Corporate AgFinance:			
Loans	On-balance sheet	$ 93,470	$ 42,953
AgVantage Securities[1]	On-balance sheet	(70,721)	(7,864)
Unfunded loan commitments	Off-balance sheet	67,723	30,584
Total Corporate AgFinance		**$ 90,472**	**$ 65,673**
Total Agricultural Finance		**$ 1,170,481**	**$ 1,699,826**
Rural Infrastructure Finance:			
Rural Utilities:			
Loans	On-balance sheet	$ 292,781	$ 499,323
AgVantage Securities[1]	On-balance sheet	854,312	10,894
LTSPCs and unfunded loan commitments	Off-balance sheet	(24,814)	(44,245)
Other Farmer Mac Guaranteed Securities[3]	Off-balance sheet	(1,169)	(1,586)
Total Rural Utilities		**$ 1,121,110**	**$ 464,386**
Renewable Energy:			
Loans	On-balance sheet	$ 220,716	$ 132,807
Unfunded loan commitments	Off-balance sheet	36,635	10,600
Total Renewable Energy		**$ 257,351**	**$ 143,407**
Total Rural Infrastructure Finance		**$ 1,378,461**	**$ 607,793**
Total		**$ 2,548,942**	**$ 2,307,619**

(1) Categories of Farmer Mac Guaranteed Securities.
(2) An interest-only Farmer Mac Guaranteed Security retained as part of a structured securitization.
(3) Other categories of Farmer Mac Guaranteed Securities that were sold by Farmer Mac to third parties.

Farmer Mac's outstanding business volume was $28.5 billion as of December 31, 2023, a net increase of $2.5 billion from December 31, 2022 after taking into account all new business, maturities, and paydowns on existing assets.

The $1.1 billion net increase in Farm & Ranch during 2023 resulted from $5.0 billion of new purchases, commitments, and guarantees, partially offset by $3.9 billion of scheduled maturities and repayments. Included in the $5.0 billion of new volume is newly purchased servicing rights on $0.6 billion of loans (i.e., loans serviced for others). Loans serviced for others earn servicing fee income rather than interest income and are a component of outstanding business volume because they are assets under our management.

Farmer Mac also purchased a total of $2.7 billion in Farm & Ranch AgVantage Securities during 2023, which primarily reflected the refinancing of maturing securities. The $2.7 billion in gross purchases was partially offset by $2.5 billion in scheduled maturities.

The $90.5 million net increase in Corporate AgFinance during 2023 resulted from $0.9 billion of new purchases and unfunded loan commitments, which was partially offset by $0.8 billion of scheduled maturities, repayments, and paydowns on revolving commitments. Farmer Mac purchased a total of $578.1 million in loans, including draws on revolving commitments, which was partially offset by $484.6 million in scheduled maturities, repayments, and paydowns on revolving commitments. The increase in loan purchases 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 food supply chain production.

The $1.1 billion net increase in Rural Utilities during 2023 resulted from $2.0 billion of new purchases, unfunded loan commitments, and guarantees, which was partially offset by $0.9 billion of scheduled maturities and repayments. Farmer Mac purchased a total of $1.5 billion in AgVantage Securities, $232.5 million in telecommunications loans, and $297.6 million in electric distribution and generation and transmission loans. The $530.1 million in loan purchases was partially offset by $237.3 million in scheduled maturities and repayments. The net increase in loan purchases primarily reflected borrowers' normal-course capital expenditures related to maintaining and upgrading utility infrastructure as well as investments in broadband infrastructure, and Farmer Mac's continued focus to support telecommunications investment in rural America.

The $257.4 million net increase in Renewable Energy during 2023 primarily reflects $273.5 million in loan purchases and unfunded commitments, partially offset by $52.7 million in repayments.

Farmer Mac's outstanding business volume was $25.9 billion as of December 31, 2022, a net increase of $2.3 billion from December 31, 2021 after taking into account all new business, scheduled maturities, and paydowns on existing assets.

The $1.6 billion net increase in Farm & Ranch during 2022 resulted from $6.9 billion of new purchases, commitments, and guarantees, mostly offset by $5.3 billion of scheduled maturities and repayments. Farmer Mac purchased a total of $1.4 billion in loans, which was primarily driven by improved borrower economics albeit navigating a substantially higher interest rate environment. The $1.4 billion in gross Farm & Ranch loan purchases was partially offset by $1.1 billion in scheduled maturities and repayments.

Farmer Mac also purchased a total of $4.2 billion in Farm & Ranch AgVantage Securities during 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 increases in credit spreads and interest rates. The $4.2 billion in gross purchases was partially offset by $3.3 billion in scheduled maturities. Of the AgVantage Securities that were acquired during 2022 and were still outstanding as of December 31, 2022, $470.0 million are scheduled to mature by June 30, 2023 and an additional $600.0 million are scheduled to mature by December 31, 2023.

The $65.7 million net increase in Corporate AgFinance during 2022 resulted from $546.6 million of new purchases and unfunded loan commitments, which was partially offset by $480.9 million of scheduled maturities, repayments, and sales. Farmer Mac purchased a total of $328.9 million in loans, which was partially offset by $276.9 million in scheduled maturities and repayments. The increase in loan purchases 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 food supply chain production.

The $464.4 million net increase in Rural Utilities during 2022 resulted from $1.4 billion of new purchases, unfunded loan commitments, and guarantees, which was partially offset by $927.8 million of scheduled maturities and repayments. Farmer Mac purchased a total of $670.0 million in AgVantage Securities, $231.0 million in telecommunications loans, and $449.5 million in electric distribution and generation and transmission loans. The $680.5 million in loan purchases was partially offset by $181.2 million in scheduled maturities and repayments. The net increase in loan purchases primarily reflected borrowers' normal-course capital expenditures related to maintaining and upgrading utility infrastructure as well as investments in broadband infrastructure, and Farmer Mac's continued focus to support telecommunications investment in rural America.

The $143.4 million net increase in Renewable Energy during 2022 primarily reflects $182.3 million in loan purchases and unfunded loan commitments, partially offset by $38.9 million in 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 18

	For the Years Ended December 31,		
	2023	2022	2021
		(dollars in thousands)	
AgVantage securities	$ 4,284,405	$ 4,990,483	$ 3,919,907
Structured securitization transactions (not consolidated)	—	—	289,519
Loans securitized and held in consolidated trusts with beneficial interests owned by third parties (structured and single-class)	317,524	460,588	113,175
Total Farmer Mac Guaranteed Securities Issuances	$ 4,601,929	$ 5,451,071	$ 4,322,601

Farmer Mac either retains the loans it purchases or securitizes them and retains or sells Farmer Mac Guaranteed Securities backed by those securitized loans. During 2023, Farmer Mac sold and securitized agricultural mortgage loans in a structured securitization resulting in $281.0 million of Farmer Mac Guaranteed Securities. Farmer Mac consolidates the assets and liabilities of the trust for this structured securitization. Farmer Mac does not consider the assets held by the related securitization trust to be available to satisfy the claims of the creditors of Farmer Mac and/or the depositor.

During 2023 and 2022, 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 2021, Farmer Mac realized a $5.2 million gain after tax from the sale of Farmer Mac Guaranteed Securities in its structured securitization transaction.

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

Table 19

Outstanding Business Volume

	On or Off Balance Sheet	As of December 31, 2023	2022	2021
			(in thousands)	
Agricultural Finance:				
Farm & Ranch:				
Loans	On-balance sheet	$ 5,133,450	$ 5,150,750	$ 4,775,070
Loans held in consolidated trusts:				
Beneficial interests owned by third-party investors (single-class)(1)	On-balance sheet	870,912	914,918	948,623
Beneficial interests owned by third-party investors (structured)(1)	On-balance sheet	561,349	296,658	—
IO-FMGS(2)	On-balance sheet	9,409	10,622	12,297
USDA Securities	On-balance sheet	2,368,872	2,407,302	2,445,806
AgVantage Securities(1)	On-balance sheet	5,835,000	5,605,000	4,725,000
LTSPCs and unfunded loan commitments	Off-balance sheet	2,999,943	2,822,309	2,587,154
Other Farmer Mac Guaranteed Securities(3)	Off-balance sheet	452,602	500,953	578,358
Loans serviced for others	Off-balance sheet	577,264	20,280	22,331
Total Farm & Ranch		**$ 18,808,801**	**$ 17,728,792**	**$ 16,094,639**
Corporate AgFinance:				
Loans	On-balance sheet	$ 1,259,723	$ 1,166,253	$ 1,123,300
AgVantage Securities(1)	On-balance sheet	288,879	359,600	367,464
Unfunded loan commitments	Off-balance sheet	145,377	77,654	47,070
Total Corporate AgFinance		**$ 1,693,979**	**$ 1,603,507**	**$ 1,537,834**
Total Agricultural Finance		**$ 20,502,780**	**$ 19,332,299**	**$ 17,632,473**
Rural Infrastructure Finance:				
Rural Utilities:				
Loans	On-balance sheet	$ 3,094,477	$ 2,801,696	$ 2,302,373
AgVantage Securities(1)	On-balance sheet	3,898,468	3,044,156	3,033,262
LTSPCs and unfunded loan commitments	Off-balance sheet	487,778	512,592	556,837
Other Farmer Mac Guaranteed Securities(3)	Off-balance sheet	—	1,169	2,755
Total Rural Utilities		**$ 7,480,723**	**$ 6,359,613**	**$ 5,895,227**
Renewable Energy:				
Loans	On-balance sheet	$ 440,286	$ 219,570	$ 86,763
Unfunded loan commitments	Off-balance sheet	47,235	10,600	—
Total Renewable Energy		**$ 487,521**	**$ 230,170**	**$ 86,763**
Total Rural Infrastructure Finance		**$ 7,968,244**	**$ 6,589,783**	**$ 5,981,990**
Total		**$ 28,471,024**	**$ 25,922,082**	**$ 23,614,463**

(1) A type of Farmer Mac Guaranteed Security.
(2) An interest-only Farmer Mac Guaranteed Security retained as part of a structured securitization.
(3) Other categories of Farmer Mac Guaranteed Securities that were sold by Farmer Mac to third parties.

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 December 31, 2023:

Table 20

Schedule of Principal Amortization as of December 31, 2023

	Loans	Loans Underlying Off-Balance Sheet Farmer Mac Guaranteed Securities and LTSPCs	USDA Securities and Farmer Mac Guaranteed USDA Securities	Total
		(in thousands)		
2024	$ 613,695	$ 344,092	$ 111,958	$ 1,069,745
2025	610,817	246,828	114,089	971,734
2026	585,917	310,052	119,223	1,015,192
2027	696,170	248,520	119,790	1,064,480
2028	814,868	299,813	120,020	1,234,701
Thereafter	8,038,730	2,483,552	1,983,870	12,506,152
Total	$ 11,360,197	$ 3,932,857	$ 2,568,950	$ 17,862,004

Of Farmer Mac's $28.5 billion outstanding principal balance of business volume as of December 31, 2023, $10.0 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 December 31, 2023:

Table 21

AgVantage Balances by Year of Maturity

	As of December 31, 2023
	(in thousands)
2024	$ 2,576,297
2025	1,676,625
2026	1,195,815
2027	1,048,898
2028	245,451
Thereafter(1)	3,279,261
Total	$ 10,022,347

(1) Includes various maturities ranging from 2029 to 2044.

The weighted-average remaining maturity of the outstanding AgVantage securities shown in the table above was 4.2 years as of December 31, 2023.

Related Party Transactions. As provided by Farmer Mac's statutory charter, only banks, insurance companies, and other financial institutions or similar entities may hold Farmer Mac's Class A voting common stock, and only institutions of the FCS may hold Farmer Mac's Class B voting common stock. Farmer Mac's charter also provides that holders of Class A voting common stock elect five members of Farmer Mac's 15-member board of directors and that holders of Class B voting common stock elect five members of the board of directors. The ownership of Farmer Mac's two classes of voting common stock is currently concentrated in a small number of institutions. Approximately 51% of the Class A voting common stock is held by four financial institutions, with 31% held by one institution. Approximately 97% of the Class B voting common stock is held by five FCS institutions (two of which are related to each other through a parent-subsidiary relationship).

Unlike some other GSEs, specifically other FCS institutions and the Federal Home Loan Banks, Farmer Mac is not structured as a cooperative owned exclusively by member institutions and established to provide services exclusively to its members. Farmer Mac, as a stockholder-owned, publicly-traded corporation, seeks to fulfill its mission of serving the financing needs of rural America in a way that is consistent with providing a return on the investment of its stockholders, including those who do not directly participate in the secondary market provided by Farmer Mac. Farmer Mac generally requires most financial institutions that participate in Farmer Mac's Agricultural Finance line of business to own a requisite amount of common stock, based on the size and type of institution. As a result of this requirement, coupled with the ability of holders of Class A and Class B voting common stock to elect two-thirds of Farmer Mac's board of directors, Farmer Mac regularly conducts business with "related parties," including institutions affiliated with members of Farmer Mac's board of directors and institutions that own large amounts of Farmer Mac's voting common stock. Farmer Mac has adopted a Code of Business Conduct and Ethics and other related corporate policies that govern any conflicts of interest that may arise in these transactions, and Farmer Mac's policy is to require that any transactions with related parties be conducted in the ordinary course of business, with terms and conditions comparable to those available to any other counterparty not related to Farmer Mac.

The following table summarizes the material relationships between Farmer Mac and certain related parties. The related parties listed in the table below consist of (1) all holders of at least five percent of a class of Farmer Mac voting common stock as of December 31, 2023 and (2) other institutions that are considered "related parties" through an affiliation with a Farmer Mac director and that have conducted business with Farmer Mac during the two years ended December 31, 2023. The table below does not specify any relationships based on the ownership of Farmer Mac's non-voting common stock or any series of preferred stock.

Table 22

Name of Institution	Ownership of Farmer Mac Voting Common Stock	Affiliation with Any Farmer Mac Directors	Primary Aspects of Institution's Business Relationship with Farmer Mac
AgFirst Farm Credit Bank	84,024 shares of Class B voting common stock (16.79% of outstanding Class B stock and 5.49% of total voting common stock outstanding)	None	In 2023 and 2022, Farmer Mac earned approximately $1.4 million and $1.2 million, respectively, in fees attributable to transactions with AgFirst, primarily commitment fees for LTSPCs.

Name of Institution	Ownership of Farmer Mac Voting Common Stock	Affiliation with Any Farmer Mac Directors	Primary Aspects of Institution's Business Relationship with Farmer Mac
AgriBank, FCB	201,621 shares of Class B voting common stock (40.30% of outstanding Class B stock and 13.17% of total voting common stock outstanding)	None	Farmer Mac did not conduct any business with AgriBank during 2023 or 2022.
Bath State Bank	Less than 5% ownership	Farmer Mac director Dennis L. Brack serves as a director of Bath State Bank and Bath State Bancorp, the holding company of Bath State Bank.	Farmer Mac purchased $1.3 million and no USDA Securities from Bath State Bank in 2023 and 2022, respectively. Farmer Mac also purchased $0.3 million and $2.1 million in Agricultural Finance mortgage loans from Bath State Bank in 2023 and 2022, respectively.
CoBank, ACB	163,253 shares of Class B voting common stock (32.63% of outstanding Class B stock and 10.66% of total voting common stock outstanding)	Farmer Mac director Everett M. Dobrinski served as a director of CoBank through December 2019. Although no longer a director of CoBank, Mr. Dobrinski served on CoBank's independent nominating committee until December 2023.	Farmer Mac purchased $438.8 million and $376.0 million in loans from CoBank in 2023 and 2022, respectively. In 2023 and 2022, CoBank retained $3.6 million and $3.5 million of servicing fees related to the loan participations sold to Farmer Mac, respectively.
Farm Credit Bank of Texas (FCBT)	38,503 shares of Class B voting common stock (7.70% of outstanding Class B stock and 2.51% of total voting common stock outstanding)	None	In 2023 and 2022, Farmer Mac earned approximately $3.4 million and $2.9 million, respectively, in fees attributable to transactions with FCBT, primarily commitment fees for LTSPCs. In both 2023 and 2022, FCBT retained approximately $0.1 million in servicing fees for its work as a Farmer Mac servicer.
Matthew 25 Management Corp.	71,500 shares of Class A voting common stock (6.94% of outstanding Class A stock and 4.67% of total voting common stock outstanding)	None	Farmer Mac did not conduct any business with Matthew 25 Management Corp. during 2023 or 2022.
National Rural Utilities Cooperative Finance Corporation (CFC)	81,500 shares of Class A voting common stock (7.91% of outstanding Class A stock and 5.32% of total voting common stock outstanding)	None	Transactions with CFC represented 37.1% and 46.7% of loans under the Rural Infrastructure Finance line of business during 2023 and 2022, respectively. In 2023 and 2022, Farmer Mac earned commitment fees of approximately $1.0 million and $1.1 million, respectively, attributable to transactions with CFC. In 2023 and 2022, Farmer Mac earned interest income of $143.5 million and $79.4 million, respectively, attributable to AgVantage transactions with CFC. In 2023 and 2022, CFC retained approximately $3.7 million and $3.4 million in servicing fees for its work as a Farmer Mac servicer, respectively.

Name of Institution	Ownership of Farmer Mac Voting Common Stock	Affiliation with Any Farmer Mac Directors	Primary Aspects of Institution's Business Relationship with Farmer Mac
The Vanguard Group, Inc.	53,805 shares of Class A voting common stock (5.22% of outstanding Class A stock and 3.51% of total voting common stock outstanding)	None	Farmer Mac did not conduct any business with The Vanguard Group during 2023 or 2022.
Zions Bancorporation, National Association (Zions)	322,100 shares of Class A voting common stock (31.25% of outstanding Class A stock and 21.04% of total voting common stock outstanding)	None	In 2023 and 2022, Farmer Mac's purchases of on-balance sheet Agricultural Finance mortgage loans from Zions represented approximately 9.5% and 12.9%, respectively, of Agricultural Finance mortgage loan purchase volume for those years. Those purchases represented 6.9% and 9.6%, respectively, of total Agricultural Finance mortgage loan business volume (excluding AgVantage and USDA Securities) for those years. The purchases of USDA Securities from Zions represented approximately 0.1% and 1.5%, respectively, of the USDA Guarantees purchases for the years ended December 31, 2023 and 2022. Transactions with Zions represented 3.1% and 3.5%, respectively, of Farmer Mac's total outstanding business volume (excluding loans serviced for others) as of December 31, 2023 and 2022. In 2023 and 2022, Zions retained approximately $11.2 million and $10.4 million, respectively, in servicing fees for its work as a Farmer Mac servicer.

As discussed in more detail in Note 2(o) to the consolidated financial statements, Farmer Mac's consolidated financial statements include the accounts of variable interest entities ("VIEs") in which Farmer Mac determines itself to be the primary beneficiary, including securitization trusts where Farmer Mac shares the power to make decisions about default mitigation with a related party. If that related party status changes, consolidation or deconsolidation of securitization trusts may occur. For more information about related party transactions, see Note 3 to the consolidated financial statements.

Outlook

Business Outlook

Products and Portfolio. Farmer Mac serves a vital role in serving rural America by offering liquidity, capital, and risk management tools as a secondary market that help increase the accessibility of financing for American agriculture and rural infrastructure. The growth trajectory of Farmer Mac is closely tied to the capital and liquidity needs of the lending institutions serving agriculture and rural infrastructure businesses and the overall financial health of borrowers in these sectors. Despite significant increases in market interest rates over the past two years and global and economic volatility, Farmer Mac was able to increase outstanding business volume and net effective spread by 9.8% and 28.0%, respectively, in 2023. The increase in outstanding business volume and net effective spread primarily reflects Farmer Mac's effective and active asset-liability and capital management strategies, the diversification of Farmer Mac's business model, and the resiliency of the agriculture and rural infrastructure sectors.

Several factors continue to influence business volume growth dynamics. The rise in market interest rates that have persisted over the past few years has had a direct impact on Farmer Mac's Farm & Ranch product interest rates, and there generally exists an inverse correlation between Farm & Ranch new loan purchase volumes and changes in Farm & Ranch product interest rates, with higher product interest rates slowing portfolio loan prepayments. The net effect of these forces contributed to positive Farm & Ranch loan purchase portfolio growth in 2023 as new Farm & Ranch loan purchases outpaced loan prepayments, although the overall net Farm & Ranch loan purchase portfolio growth was below prior years, primarily because of the continued higher product interest rate environment. Future changes in monetary policy and sustained elevated product interest rates are anticipated to influence the demand for Agricultural Finance mortgage loans and the pace of repayments. Farmer Mac experienced significant momentum in its wholesale finance product during 2023, driven by volatile market credit spreads resulting in greater liquidity and diversification needs from our counterparties. This momentum could continue into 2024 and will be determined by market interest rates and credit spreads, overall economic conditions, and the relative value of Farmer Mac's products versus the broader market. Corporate AgFinance loan purchases and unfunded commitments increased 12.9% in 2023 to $1.4 billion despite volatile transaction velocity throughout 2023 due to market and economic uncertainty. The Rural Infrastructure Finance segments showed substantial business volume growth in 2023, driven by counterparty demand for wholesale funding, increased investment activity in telecommunications and rural broadband borrowers, and additional financing for renewable energy projects. Finally, Farmer Mac increased assets under management through the expansion of its servicing platform through loan pool purchases and purchases of loan servicing rights for loans owned by other entities.

Opportunities for profitable future growth include Farmer Mac's crucial role in alleviating liquidity, equity capital, and return-on-equity capital challenges faced by agricultural and rural infrastructure lenders. The suite of offerings encompasses loan and portfolio purchases, participations, guarantees, LTSPCs, wholesale funding, and securitizations. Ongoing business and product development efforts continue to attract institutional investors and nontraditional lenders, resulting in the diversification of Farmer Mac's customer base and product set, potentially generating increased product demand from new sources. Farmer Mac's improved loan servicing capabilities enhance our loan portfolio purchase value proposition, adding new product offerings to an increasingly diverse customer base.

Growing relationships with larger agriculture lenders, financial industry consolidation, and interest rate and market volatility continue to provide increased opportunities for Farmer Mac, influencing the demand for loan purchases, risk management solutions, and wholesale funding. This growth may lead to an increase in the average transaction size within Farmer Mac's lines of business. The financing needs arising from mergers, acquisitions, consolidation, and vertical integration in the agricultural and rural infrastructure industries present further opportunities for Farmer Mac's loan purchase products and other financing solutions. Furthermore, investments supporting consumer and food supply demand may increase financing needs in the food and agriculture supply chain, potentially requiring incremental capital support through the secondary market. Deepening relationships with eligible rural infrastructure counterparties are expected to continue to create opportunities to support fiber and broadband-related projects, rural telecommunications investments, and renewable energy projects.

Operations. Throughout 2023, Farmer Mac was not affected by the liquidity concerns that affected many regional and national banks due to fluctuations caused by elevated interest rates and deposit withdrawals. Unlike depository institutions, Farmer Mac's funding strategies do not rely on deposits, allowing us to navigate beyond short-term liquidity disruptions and to take advantage of increased opportunities in a competitive lending environment. Our funding advantage over regional and national banks is also aided by the fact that our debt has a contractual term to maturity and that only we have the ability to call our callable debt before its original maturity date when market conditions are beneficial to Farmer Mac. In contrast, depository institutions largely rely on demand deposit accounts in which the depositors hold the right to withdraw at any time. Because of these differences in funding strategies, certain economic disruptions may have a positive impact on Farmer Mac's funding costs relative to the overall market.

The increase in short-term rates during the last two years has provided an asymmetric benefit to Farmer Mac's earnings as a result of effective capital allocation and interest rate risk strategies. Our proactive equity capital allocation strategies help to limit any downside effect to earnings when rates decline. Farmer Mac's fundamental asset-liability management approach, which matches the duration and convexity of assets and liabilities in all rate environments, also helps to minimize earnings volatility during periods of short-term interest rate fluctuations.

In addition to active asset-liability management, Farmer Mac's business may benefit from natural business hedges that help mitigate vulnerability to effects from interest rate volatility. When interest rates rise, prepayments tend to decline, but interest earned on excess cash and capital increases, maintaining Farmer Mac's strong market access without relying on deposits. Conversely, when interest rates decline, loan purchase volume often increases, but prepayments tend to rise as well. Farmer Mac manages its interest rate risk by issuing callable debt and maintaining market-based credit spreads. Although these natural business dynamics may not be perfect offsets, they often effectively counterbalance to mitigate volatility from changes in short-term interest rates.

Farmer Mac expects continued increases in its operating expenses over the next several years as we continue to expand our investments in human capital, technology, and business infrastructure to increase capacity and efficiency as we seek to accommodate growth opportunities and achieve our long-term strategic objectives. Investments in infrastructure and funding platforms to support strategic objectives are expected to allow Farmer Mac to scale more efficiently with future portfolio and earnings growth. These investments will likely help improve product delivery and funding efficiency, potentially creating additional benefits for future growth.

Another focus of our infrastructure investments will be a continued effort to expand our servicing capabilities and to enhance the efficiency and effectiveness of processes associated with loan onboarding and servicing. Farmer Mac will continue to leverage technology enhancements and servicing standardization efforts to drive scalability and consistency. In 2023, Farmer Mac's servicing portfolios grew by more than 50% in both number of loans serviced and outstanding balances. Servicing capabilities also increased to incorporate new features as we started servicing eligible loans on behalf of others. Technology enhancements are planned for 2024 to continue to incorporate all Farmer Mac loan portfolios onto our servicing platform and to provide flexibility in accessing loan portfolio information, as well as streamlining operational workflows.

Agricultural Finance Industry Outlook

Farm Incomes. Overall farm incomes fell in 2023 and are forecast to fall again in 2024 after reaching new highs in 2022. The USDA estimates that net cash farm income climbed 34% to $202.2 billion in 2022, a new all-time high. The primary driver of increased profitability in 2022 was higher cash revenues, in contrast to 2019 and 2020, when elevated government support payments supported farm incomes. Although the USDA estimates that net cash farm income decreased 21% in 2023 and will decrease another 24% in 2024 due to lower commodity prices and elevated farm expenses, the average of 2023 and 2024 farm income projections are 10% higher than the 10-year average, demonstrating the continued strength in farm profitability. Grain commodity prices may see increased volatility in 2024 due to changing global supply levels, but some livestock and animal protein sectors may see offsetting benefits from lower feed costs, particularly the cattle sector. Demand for corn and soybean by-products could see a boost in 2024 as renewable diesel and sustainable aviation fuel markets mature. Farm expenses could also abate somewhat in 2024, with lower expected feed, fertilizer, and fuel costs partially offset by higher expected interest, labor, and rental rates.

Land Values. Record-setting farm incomes in 2021 and 2022, combined with historically low interest rates in 2020 and 2021, drove a rapid rise in land values and a decrease in farm delinquencies and bankruptcies. Momentum for farmland values persisted throughout 2023 due to high levels of farm liquidity and a constrained supply of farmland for sale. Land value survey data from the USDA show a 7.4% increase in average farm real estate values from June 2022 to June 2023. Annual farm real estate value gains were highest in the Northern Plains (13.7%) and the Southern Plains (9.4%) but also strong in the Lake states (8.2%), the Corn Belt (7.1%), and the Southeast (5.7%). Farmland value growth rates moderated in the second half of 2023 in the face of continued higher market interest rates. The Federal Reserve Bank of Chicago AgLetter reported a 5% gain in farmland values in the Seventh District (primarily Iowa, Indiana, Illinois, and Wisconsin) between October 2022 and October 2023. 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) during that same period. Growth rates in land values could moderate slightly into 2024 due to compressing farm profitability and a continued elevated interest rate environment, although a low supply of available farmland and strong demand for the asset class across a wide variety of investors could help maintain balance in the farmland transaction markets.

While regional averages for farmland values generally provide a good barometer for the overall changes 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. Based on our robust collateral underwriting standards, we believe that our loan collateral is well-positioned to endure reasonably foreseeable volatility in farmland values due to external factors.

Markets and Weather. Exogenous factors facing farm and food producers can create uncertainty and market instability within the sector. Some of the external market conditions that could adversely affect the farm and food sectors in 2024 include foreign trade and trade policy, supply chain disruptions, and environmental conditions. The U.S. agricultural sector has become increasingly dependent on foreign markets as a source of demand, making trade policy an important consideration for farms and food. The USDA projects that U.S. agriculture exports will drop to $169.5 billion in 2024, a 14% decrease relative to peak levels in 2022. Through November 2023, agricultural export values were down approximately 11% in 2023 compared to 2022. The value of the U.S. dollar relative to other major currencies fell 3% in 2023, but economic and geopolitical uncertainties such as conflicts in Eastern Europe and the Middle East increased U.S. dollar volatility during the year. A strong U.S. dollar could potentially be a headwind for farm, food, fiber, and fuel exports heading into 2024. Slower global growth could also be a headwind for consumer-oriented products like animal proteins, dairy, fruits, and nuts, and Ukrainian corn and wheat production may eventually stabilize.

Severe weather conditions and long-term environmental change continue to shape agricultural sectors. The U.S. experienced 28 separate billion-dollar weather disasters in 2023, the highest number of billion-dollar weather disasters on record, as tracked by the National Oceanic and Atmospheric Administration. Many of those events affected agriculture, including midwestern storms, flooding, western wildfires, excessive heat, and drought. Federal crop insurance provides a strong mitigator against this risk, but farmers and ranchers face increasingly severe weather incidents. Long and persistent heat and drought conditions affected agricultural production regions in the western and midwestern parts of the United States in 2021 and 2022. There was a sizable improvement in conditions in 2023 for large portions of the West Coast, especially California, but drought conditions have intensified in other areas of the country. Approximately 14% of the continental U.S. was classified as being in severe to exceptional drought as of January 2, 2024, according to data from the National Center for Environmental Information. For loans in other areas that commonly experience exceptional drought (primarily in California), Farmer Mac's underwriting standards include an assessment of anticipated long-term water availability for the related property and how water availability impacts the collateral value and the borrower's liquidity position to mitigate that risk.

Ag Processing and Food Supply Chain. The production of food, feed, fiber, and biofuels has been economically viable in the past few years, but some factors may change in 2024. Rising consumer inflation boosted the profitability of the food processing and supply chains in 2021 and 2022. Lower consumer prices increased the volume of consumer spending but also limited the profit expansion of food and fiber businesses. Biofuels have gained more demand due to low-carbon regulations in several states and incremental tax benefits for the production of renewable diesel and sustainable aviation fuel. A large amount of planned biofuel projects and new facilities for 2024 and 2025 could raise the prices of raw materials such as corn and soybeans. A strong U.S. dollar, trade issues, and a high risk of global economic turmoil could pose challenges for these sectors in 2024. Nonetheless, consumer spending remains strong at the beginning of 2024, creating favorable conditions for value-added food, feed, fiber, and biofuel consumption. Credit demand in these sectors could grow in the next few quarters if interest rate policy moderates, inflation rises again, or economic uncertainty clears up.

Rural Infrastructure Finance Industry Outlook

Power and Energy. Economic conditions affecting rural power and electricity markets typically 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 have slowed, with an annual decrease in sales of 1.1% and an increase in revenue of 2.9%, respectively, in the last 12 months through November 2023 compared to November 2022. This decrease in sales was driven by a drop in the residential electricity sector. The average price of electricity to industrial customers increased 2.0% in November 2023 relative to 2022. Higher energy input prices, such as natural gas and coal, became a headwind in 2022. Natural gas prices rose consistently in 2021 and 2022 because of reduced supply and additional demand for U.S. liquified natural gas from European countries. Coal prices also rapidly increased in 2022, driven by higher natural gas prices and additional overseas demand to offset limited Russian coal exports. Oil and natural gas price volatility moderated throughout 2023, but geopolitical uncertainty in the Middle East and Eastern Europe could increase volatility in 2024. Despite higher input costs, power producers are generally able to pass cost increases through higher retail electricity prices, as evidenced by the increase in retail electricity price increases throughout 2022 and parts of 2023. Through December 31, 2023, Farmer Mac had not observed material degradation in the financial performance of its rural utilities portfolio, and that portfolio has never had a serious delinquency or default since its inception. Credit demand for electric cooperatives will likely be tied to ongoing normal-course capital expenditures related to maintaining and upgrading utility infrastructure. These growth opportunities 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. Generally, these investments are expected to continue at historical levels based on the replacement and modernization of existing infrastructure.

Telecommunications. Rural telecommunication connectivity has proven to be of vital economic importance in the last decade, as more households and agricultural enterprises require more data and connectivity to thrive. The rapid growth in digital technologies, including the ongoing interest and investment in artificial intelligence, advancements in cloud computing, and wireless network densification, will require significantly more computing and storage capabilities as well as investment in additional fiber network capacity. These industry tailwinds are creating additional investments in rural telecommunications infrastructure by cooperative and non-cooperative providers, which is aided by access to many federally funded programs, such as USDA's Broadband Equity Access and Deployment Program (BEAD), the Federal Communications Commission's Rural Digital Opportunity Fund (RDOF), the USDA’s ReConnect program, 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 fiber line expansion and wireless broadband increasingly important to rural economic opportunity and precision agriculture.

Renewable Energy. Growth in renewable energy generation and deployment of energy storage technologies has the potential to continue to 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 along with recently enacted legislation, such as the Inflation Reduction Act of 2022 that incentivizes domestic production in clean energy technologies such as solar and wind. Because of these policy tailwinds, analytics from Bloomberg New Energy Finance (BNEF) estimate that investors will install nearly 400 gigawatts of renewable energy capacity between 2023 and 2030. BNEF analysis also anticipates that nearly $2.5 trillion will be invested in renewable projects between 2021 and 2050. If realized, growth in renewable energy capacity has the potential to broaden Farmer Mac's customer base focused on financing renewable energy projects and companies. In response to this expected growth, Farmer Mac has hired industry-specialized staff and deployed new financing products tailored to the renewable energy sector, which represents a new and growing market opportunity for Farmer Mac.

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

- On November 16, 2023, President Biden signed into law a one-year extension of the 2018 farm bill. The extension (through September 30, 2024) will give Congress more time to reauthorize and update a variety of programs impacting farm profitability, agricultural credit, and rural infrastructure. A farm bill is a critical piece of legislation for a variety of Farmer Mac's customers. Congress has started an extensive process to review programs that are included in the farm bill in preparation for reauthorization. Farmer Mac is seeking changes to its charter in this farm bill reauthorization to enhance its partnerships and services in support of lenders serving farmers, ranchers, agribusinesses, and rural infrastructure. Because the source of Farmer Mac's charter is federal statute, any proposed changes to the text of our charter are subject to approval by Congress and being signed into law by the President of the United States.

- On October 5, 2023, FCA approved a final rule on cyber risk management. The rule requires an assessment of internal and external risk factors, identification of potential systems and software vulnerabilities, the establishment of a risk management program for the risks identified, development of a cyber risk training program, policies for managing third-party relationships, and the establishment of board reporting requirements. The effective date of the final rule is January 1, 2025.

- The FCA's proposed 2023 regulatory agenda includes a proposed rulemaking to review Farmer Mac's regulatory capital framework. The FCA's regulatory agenda estimates that proposed rulemaking in May 2024, although this timeline may change. Farmer Mac's management team will continue to monitor the FCA's process for this potential rulemaking.

- Two of the three members of the FCA board are currently serving in holdover status because their terms have expired. These board members will continue to serve in their roles until replacements are nominated by the President and confirmed by the U.S. Senate.

Balance Sheet Review

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

Table 23

	As of		Change	
	December 31, 2023	December 31, 2022	$	%
		(in thousands)		
Assets				
Cash and cash equivalents	$ 888,707	$ 861,002	$ 27,705	3 %
Investment securities	4,979,504	4,628,268	351,236	8 %
Farmer Mac Guaranteed Securities	9,745,548	8,628,380	1,117,168	13 %
USDA Securities	2,355,412	2,411,601	(56,189)	(2)%
Loans, net of allowance	9,607,531	8,994,350	613,181	7 %
Loans held in trusts	1,431,818	1,211,116	220,702	18 %
Other	515,862	598,393	(82,531)	(14)%
Total assets	$ 29,524,382	$ 27,333,110	$ 2,191,272	8 %
Liabilities				
Notes Payable	$ 26,336,542	$ 24,469,113	$ 1,867,429	8 %
Debt securities of consolidated trusts held by third parties	1,351,069	1,181,948	169,121	14 %
Other	424,908	410,091	14,817	4 %
Total liabilities	$ 28,112,519	$ 26,061,152	$ 2,051,367	8 %
Total equity	1,411,863	1,271,958	139,905	11 %
Total liabilities and equity	$ 29,524,382	$ 27,333,110	$ 2,191,272	8 %

Assets. The increase in total assets was primarily attributable to new Farmer Mac Guaranteed Securities volume, new loan volume, including those held in consolidated trusts, 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 Farmer Mac Guaranteed Securities, loan volume, and investment portfolio assets, including those held in consolidated trusts.

Equity. The increase in total equity was primarily due to an increase in retained earnings and an increase 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 December 31, 2023 was $11.2 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."

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 December 31, 2023, were $34.7 million (0.31% of the Agricultural Finance mortgage loan portfolio to which Farmer Mac has direct credit exposure), compared to $43.5 million (0.41% of the Agricultural Finance mortgage loan portfolio) as of December 31, 2022. Those 90-day delinquencies consisted of 23 delinquent loans as of December 31, 2023, compared to 37 delinquent loans as of December 31, 2022. The decrease in the number of 90-day delinquencies was primarily driven by decreased delinquencies in agricultural storage and processing, and was partially offset by increased delinquencies in crops, permanent plantings, part-time farms, and livestock. The top ten borrower exposures over 90 days delinquent represented over half of the 90-day delinquencies as of December 31, 2023. Farmer Mac believes that it remains adequately collateralized on its delinquent loans.

Farmer Mac's 90-day delinquency rate as of December 31, 2023 was below Farmer Mac's historical average. In the near-term, our delinquency rate may exceed our historical average due to changes in the agricultural or general economy or unforeseen and idiosyncratic events like adverse weather events. 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
	(dollars in thousands)		
As of:			
December 31, 2023	$ 11,223,276	$ 34,677	0.31 %
September 30, 2023	11,014,678	42,443	0.39 %
June 30, 2023	10,826,201	45,368	0.42 %
March 31, 2023	10,680,419	70,646	0.66 %
December 31, 2022	10,719,571	43,498	0.41 %
September 30, 2022	10,508,549	44,232	0.42 %
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 %

Across all of Farmer Mac's lines of business, 90-day delinquencies represented 0.12% of total outstanding business volume as of December 31, 2023, compared to 0.17% as of December 31, 2022 and 0.20% as of December 31, 2021.

The following table presents outstanding Agricultural Finance mortgage loans and 90-day delinquencies as of December 31, 2023 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 December 31, 2023

	Distribution of Agricultural Loans	Agricultural Loans	90-Day Delinquencies[1]	Percentage
		(dollars in thousands)		
By year of origination:				
2013 and prior	6 %	$ 718,725	$ 2,982	0.41 %
2014	2 %	198,726	1,102	0.55 %
2015	3 %	318,518	9,585	3.01 %
2016	5 %	512,420	2,871	0.56 %
2017	5 %	513,356	1,262	0.25 %
2018	5 %	595,089	2,409	0.40 %
2019	7 %	820,410	551	0.07 %
2020	18 %	1,964,250	5,232	0.27 %
2021	23 %	2,616,354	931	0.04 %
2022	15 %	1,735,928	7,752	0.45 %
2023	11 %	1,229,500	—	0.45 %
Total	100 %	$ 11,223,276	$ 34,677	0.31 %
By geographic region[2]:				
Northwest	13 %	$ 1,397,173	$ 1,837	0.13 %
Southwest	31 %	3,438,077	17,422	0.51 %
Mid-North	26 %	2,966,948	2,626	0.09 %
Mid-South	17 %	1,942,663	10,355	0.53 %
Northeast	4 %	439,449	1,296	0.29 %
Southeast	9 %	1,038,966	1,141	0.11 %
Total	100 %	$ 11,223,276	$ 34,677	0.31 %
By commodity/collateral type:				
Crops	49 %	$ 5,475,379	$ 20,994	0.38 %
Permanent plantings	22 %	2,460,486	6,252	0.25 %
Livestock	19 %	2,124,438	4,116	0.19 %
Part-time farm	4 %	490,975	3,315	0.68 %
Ag. Storage and Processing	6 %	655,279	—	— %
Other	— %	16,719	—	— %
Total	100 %	$ 11,223,276	$ 34,677	0.31 %
By original loan-to-value ratio:				
0.00% to 40.00%	16 %	$ 1,761,182	$ 551	0.03 %
40.01% to 50.00%	22 %	2,480,809	9,227	0.37 %
50.01% to 60.00%	35 %	3,877,916	18,980	0.49 %
60.01% to 70.00%	20 %	2,291,423	5,118	0.22 %
70.01% to 80.00%[3]	2 %	247,698	801	0.32 %
80.01% to 90.00%[3]	— %	24,752	—	— %
Enterprise Value[4]	5 %	539,496	—	— %
Total	100 %	$ 11,223,276	$ 34,677	0.31 %
By size of borrower exposure[5]:				
Less than $1,000,000	25 %	$ 2,845,173	$ 5,033	0.18 %
$1,000,000 to $4,999,999	37 %	4,185,109	20,059	0.48 %
$5,000,000 to $9,999,999	15 %	1,664,029	—	— %
$10,000,000 to $24,999,999	13 %	1,444,359	9,585	0.66 %
$25,000,000 and greater	10 %	1,084,606	—	— %
Total	100 %	$ 11,223,276	$ 34,677	0.31 %

(1) Includes loans held and loans underlying off-balance sheet Farmer Mac 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) "Enterprise Value" loans are generally secured by all business assets and common stock (in addition to first lien mortgages) of the borrower and the value of the borrowing entity depends on its ability to generate recurring positive cash flow. Enterprise Value is the estimated value of the borrower as a going concern, which is estimated using one or more valuation techniques such as discounted cash flow, cash flow multiples, asset liquidation, or other valuation techniques.

(5) 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 December 31, 2023, Farmer Mac's Agricultural Finance mortgage loans (to which it has direct credit exposure) comprising substandard assets were $186.0 million (1.7% of the portfolio), compared to $209.4 million (2.0% of the portfolio) as of December 31, 2022. Those substandard assets comprised 206 loans as of December 31, 2023 and 243 loans as of December 31, 2022.

The decrease of $23.4 million in Agricultural Finance substandard assets during 2023 was primarily driven by the payoff of a substandard loan that had been in our on-balance sheet portfolio. Agricultural Finance substandard assets decreased as a percentage of both our on-balance sheet and our off-balance sheet Agricultural Finance portfolios during 2023.

The percentage of Agricultural Finance substandard assets within the portfolio as of December 31, 2023 was below the historical average. Farmer Mac's average Agricultural Finance 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 Agricultural Finance portfolio, which Farmer Mac believes is adequately collateralized.

Within Agricultural Finance, Farmer Mac considers a Farm & Ranch 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 December 31, 2023 and 2022, the average unpaid principal balances for Farm & Ranch loans outstanding and to which Farmer Mac has direct credit exposure was $804,000 and $806,000, 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 Farm & Ranch mortgage loans purchased during 2023 was 51%, compared to 50% for loans purchased during 2022. The weighted-average original loan-to-value ratio for Farm & Ranch mortgage loans and loans underlying off-balance sheet Farmer Mac Guaranteed Securities and LTSPCs was 52% and 51% as of December 31, 2023 and

2022, respectively. The weighted-average original loan-to-value ratio for all 90-day delinquencies was 56% and 46% as of December 31, 2023 and 2022, 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 Farmer Mac Guaranteed Securities and LTSPCs was 47% and 46% as of December 31, 2023 and 2022, 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 December 31, 2023

	Acceptable	Special Mention	Substandard	Total
	(in thousands)			
Current loan-to-value ratio[1]:				
0.00% to 40.00%	$ 2,941,132	$ 58,143	$ 48,923	$ 3,048,198
40.01% to 50.00%	2,808,638	95,906	41,127	2,945,671
50.01% to 60.00%	2,888,136	78,501	44,403	3,011,040
60.01% to 70.00%	1,335,688	58,715	30,072	1,424,475
70.01% to 80.00%	188,582	28,425	17,555	234,562
80.01% and greater	15,963	—	3,871	19,834
Enterprise Value[2]	507,885	31,611	—	539,496
Total	$ 10,686,024	$ 351,301	$ 185,951	$ 11,223,276

(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.

(2) "Enterprise Value" loans are generally secured by all business assets and common stock (in addition to first lien mortgages) of the borrower and the value of the borrowing entity depends on its ability to generate recurring positive cash flow. Enterprise Value is the estimated value of the borrower as a going concern, which is estimated using one ore more valuation techniques such as discounted cash flow, cash flow multiples, asset liquidation, or other valuation techniques.

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 December 31, 2023 by year of origination, geographic region, and commodity/collateral type. The purpose of this table 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 December 31, 2023

	Cumulative Original Loans, Guarantees and LTSPCs	Cumulative Net Credit Losses/ (Recoveries)	Cumulative Loss Rate
	(dollars in thousands)		
By year of origination:			
2013 and prior	$ 18,730,988	$ 33,785	0.18 %
2014	1,097,131	—	— %
2015	1,251,414	(516)	(0.04)%
2016	1,599,533	903	0.06 %
2017	1,709,852	4,311	0.25 %
2018	1,403,244	—	— %
2019	1,630,441	—	— %
2020	2,934,102	—	— %
2021	3,346,715	—	— %
2022	2,003,044		— %
2023	1,419,621		— %
Total	$ 37,126,085	$ 38,483	0.10 %
By geographic region[1]:			
Northwest	$ 4,705,793	$ 12,094	0.26 %
Southwest	12,434,219	8,542	0.07 %
Mid-North	9,213,586	17,165	0.19 %
Mid-South	5,361,636	(613)	(0.01)%
Northeast	1,921,518	323	0.02 %
Southeast	3,489,333	972	0.03 %
Total	$ 37,126,085	$ 38,483	0.10 %
By commodity/collateral type:			
Crops	$ 17,023,194	$ 3,790	0.02 %
Permanent plantings	8,028,667	9,783	0.12 %
Livestock	8,158,577	3,836	0.05 %
Part-time farm	1,936,477	1,090	0.06 %
Ag. Storage and Processing	1,810,339	19,984	1.10 %
Other	168,831	—	— %
Total	$ 37,126,085	$ 38,483	0.10 %

(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 December 31, 2023						
	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	$ 711,850	$ 232,794	$ 300,766	$116,082	$ 35,658	$ 23	$1,397,173
	6.4 %	2.1 %	2.7 %	1.0 %	0.3 %	— %	12.5 %
Southwest	730,660	1,848,059	605,245	115,172	123,674	15,267	3,438,077
	6.5 %	16.5 %	5.4 %	1.0 %	1.2 %	0.1 %	30.7 %
Mid-North	2,392,197	10,635	264,769	82,100	216,004	1,243	2,966,948
	21.3 %	0.1 %	2.4 %	0.7 %	1.9 %	— %	26.4 %
Mid-South	1,104,414	83,432	625,700	67,730	61,387	—	1,942,663
	9.8 %	0.7 %	5.6 %	0.6 %	0.5 %	— %	17.2 %
Northeast	187,279	42,835	69,641	48,936	90,758	—	439,449
	1.7 %	0.4 %	0.6 %	0.4 %	0.8 %	— %	3.9 %
Southeast	348,979	242,731	258,317	60,955	127,798	186	1,038,966
	3.1 %	2.2 %	2.4 %	0.5 %	1.1 %	— %	9.3 %
Total	$ 5,475,379	$ 2,460,486	$2,124,438	$490,975	$ 655,279	$ 16,719	$11,223,276
	48.8 %	22.0 %	19.1 %	4.2 %	5.8 %	0.1 %	100.0 %

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

Table 29

	As of December 31, 2023					
	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:						
2013 and prior	$ 3,427	$ 9,783	$ 3,836	$ 1,066	$ 15,673	$ 33,785
2014	—	—	—	—	—	—
2015	(540)	—	—	24	—	(516)
2016	903	—	—	—	—	903
2017	—	—	—	—	4,311	4,311
2018	—	—	—	—	—	—
2019	—	—	—	—	—	—
2020	—	—	—	—	—	—
2021	—	—	—	—	—	—
2022	—	—	—	—	—	—
2023	—	—	—	—	—	—
Total	$ 3,790	$ 9,783	$ 3,836	$ 1,090	$ 19,984	$ 38,483

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 8 and Note 12 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 December 31, 2023 was $4.1 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." As of December 31, 2023, there were no delinquencies in Farmer Mac's portfolio of Rural Infrastructure Finance loans. As of December 31, 2023, there was one telecommunications loan classified as substandard, with an unpaid principal balance of $29.4 million.

Farmer Mac evaluates credit risk of Rural Infrastructure 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 disaggregates Farmer Mac’s portfolio of Rural Infrastructure loans by portfolio segment and by internally assigned risk ratings.

Table 30

	As of December 31, 2023			
	Rural Infrastructure Finance portfolio by internally assigned risk rating			
	Acceptable	Special Mention	Substandard	Total
	(in thousands)			
Distribution Cooperative	$ 2,396,940	$ —	$ —	$ 2,396,940
Generation and Transmission Cooperative	678,354	—	—	678,354
Renewable Energy	487,521	—	—	487,521
Telecommunications	467,711	9,850	29,400	506,961
Rural Infrastructure Total	$ 4,030,526	$ 9,850	$ 29,400	$ 4,069,776

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 8 and 12 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 December 31, 2023, 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 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 December 31, 2023, 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."

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 material 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 December 31, 2023, 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."

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 Infrastructure 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 December 31, 2023, Farmer Mac had not experienced any credit losses on any AgVantage securities over the life of the program. 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."

The unpaid principal balance of outstanding on-balance sheet AgVantage securities secured by loans eligible for the Agricultural Finance line of business totaled $6.1 billion as of December 31, 2023 and $6.0 billion as of December 31, 2022. The unpaid principal balance of on-balance sheet AgVantage securities secured by loans eligible for the Rural Infrastructure Finance line of business totaled $3.9 billion as of December 31, 2023 and $3.0 billion as of December 31, 2022. The unpaid principal balance of outstanding off-balance sheet AgVantage securities totaled $0.0 million as of December 31, 2023 and $1.2 million as of December 31, 2022.

The following table provides information about the issuers of AgVantage securities and the required collateralization levels for those transactions as of December 31, 2023 and 2022:

Table 31

Counterparty	As of December 31, 2023 Balance	As of December 31, 2023 Required Collateralization	As of December 31, 2022 Balance	As of December 31, 2022 Required Collateralization
	(dollars in thousands)			
AgVantage:				
CFC	$ 3,898,468	100%	$ 3,045,325	100%
MetLife	2,050,000	103%	2,050,000	103%
Rabo AgriFinance	3,085,000	105%	2,855,000	105%
Other[(1)]	988,879	100% to 125%	1,059,600	100% to 125%
Total outstanding	$ 10,022,347		$ 9,009,925	

(1) Consists of AgVantage securities issued by 8 and 12 different issuers as of December 31, 2023 and 2022, 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."

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 6 to the consolidated financial statements.

Credit Risk – Other Investments. As of December 31, 2023, Farmer Mac had $0.9 billion of cash and cash equivalents and $5.0 billion of investment securities. The management of the credit risk inherent in these investments is governed by Farmer Mac's internal policies as well as 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 ($147.0 million as of December 31, 2023). However, Farmer Mac's current policy limits this total credit exposure to 5% of its regulatory capital ($73.5 million as of December 31, 2023). 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 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. Portions of Farmer Mac's 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 December 31, 2023 mature within three months. As of December 31, 2023, $3.1 billion of the $5.0 billion of investment securities (61%) 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 December 31, 2023 and 2022 to an immediate and instantaneous uniform or "parallel" shift in the yield curve:

Table 32

	Percentage Change in MVE from Base Case	
Interest Rate Scenario	As of December 31, 2023	As of December 31, 2022
+100 basis points	(3.6)%	(3.7)%
-100 basis points	2.9 %	2.7 %

	Percentage Change in NES from Base Case	
Interest Rate Scenario	As of December 31, 2023	As of December 31, 2022
+100 basis points	— %	0.4 %
-100 basis points	0.8 %	(0.6)%

As of December 31, 2023, Farmer Mac's duration gap was positive 3.4 months, compared to positive 3.6 months as of December 31, 2022. The U.S. Treasury interest rate yield curve remained inverted during 2023, although the 2-year U.S. Treasury Note yield-to-maturity decreased by approximately 18 basis points and the 10-year U.S. Treasury Note yield-to-maturity was relatively flat compared to year-end 2022. This rate movement contributed to shortening the duration of Farmer Mac's funded assets compared to its debt and financial derivatives, thereby narrowing 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 December 31, 2023, Farmer Mac had $25.8 billion combined notional amount of interest rate swaps, with terms ranging from less than one year to just over thirty years, of which $9.9 billion were pay-fixed interest rate swaps, $15.0 billion were receive-fixed interest rate swaps, and $0.9 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. 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 6 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 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 December 31, 2023 and 2022, 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 December 31, 2023, Farmer Mac held $8.0 billion of floating rate assets in its lines of business and its investment portfolio that reset based on floating rate market indices, such as SOFR. As of the same date, Farmer Mac also had $9.9 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest, primarily SOFR.

Discontinuation of LIBOR

Farmer Mac has not had, and does not foresee, a material impact on our business due to the replacement of LIBOR with SOFR. We have had no further LIBOR exposure since the quarter-ended September 30, 2023.

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 repayments 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 2023. 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 December 31, 2023, Farmer Mac had outstanding discount notes of $1.7 billion, medium-term notes that mature within one year of $6.4 billion, and medium-term notes that mature after one year of $18.5 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. In accordance with the methodology for calculating available days of liquidity under those regulations, Farmer Mac maintained a monthly average of 307 days of liquidity throughout 2023 and had 319 days of liquidity as of December 31, 2023.

Farmer Mac maintains cash, cash equivalents (including U.S. Treasury securities, operational deposits, 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 December 31, 2023 and 2022:

Table 33

	As of December 31, 2023	As of December 31, 2022
	(in thousands)	
Cash and cash equivalents	$ 888,707	$ 861,002
Investment securities:		
Guaranteed by U.S. Government and its agencies	1,249,568	1,444,650
Guaranteed by GSEs	3,704,037	3,160,919
Asset-backed securities	19,082	19,027
Total	$ 5,861,394	$ 5,485,598

The objectives of the investment portfolio as of December 31, 2023 and 2022 are 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 December 31, 2023, Farmer Mac was in compliance with its statutory capital requirements and was classified as within "level 1" (the highest compliance level).

In accordance with the 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 December 31, 2023 and 2022, Farmer Mac's Tier 1 capital ratio was 15.4% and 14.9%, respectively. As of December 31, 2023, Farmer Mac was in compliance with its capital adequacy policy. Farmer Mac does not expect its compliance on an ongoing basis with the 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 the FCA's rule on capital planning, see "Business—Government Regulation of Farmer Mac—Capital Standards." See Note 9 to the consolidated financial statements for more information about Farmer Mac's capital position.

Discount and Medium-term Notes. The following table presents the amount and timing of Farmer Mac's known, fixed, and determinable discount and medium-term note obligations by payment date as of December 31, 2023. The payment amounts represent those amounts due to the investor (including return of discount and interest on debt) and do not include unamortized premiums or discounts or other similar carrying value adjustments.

Table 34

	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
			(in thousands)		
Discount notes[(1)]	$ 1,768,539	$ —	$ —	$ —	$ 1,768,539
Medium-term notes[(1)]	6,353,538	9,354,027	5,666,797	3,495,980	24,870,342
Interest payments on fixed rate medium-term notes[(2)]	553,339	710,935	369,933	310,559	1,944,766
Interest payments on floating rate medium-term notes[(3)]	137,144	149,402	70,673	32,457	389,676

(1) Future events, including additional issuance of discount notes and medium-term notes and refinancing of those notes, could cause actual payments to differ significantly from these amounts. For more information about discount notes and medium-term notes, see Note 7 to the consolidated financial statements.

(2) Interest payments on callable medium-term notes are calculated based on maturity. Future calls of these notes could cause actual interest payments to differ significantly from the amounts presented.

(3) Calculated using the effective interest rates as of December 31, 2023. As a result, these amounts do not reflect the effects of changes in the interest rates effective on future interest rate reset dates.

Farmer Mac enters into financial derivatives contracts under which it either receives cash from counterparties, or is required to pay cash to them, depending on changes in interest rates. Financial derivatives are carried on the consolidated balance sheets at fair value, representing the net present value of expected future cash payments or receipts based on market interest rates as of the balance sheet date adjusted for the consideration of credit risk of Farmer Mac and its counterparties. The fair values of the contracts change daily as market interest rates change. Because the financial derivative liabilities recorded on the consolidated balance sheet as of December 31, 2023 do not represent the amounts that may ultimately be paid under the financial derivative contracts, those liabilities are not included in the table presented above. More information about financial derivatives is included in Note 2(f) and Note 6 to the consolidated financial statements.

Contingent Liabilities. In conducting its loan purchase activities, Farmer Mac enters into mandatory delivery commitments to purchase agricultural mortgage loans and USDA Securities. In conducting its LTSPC activities, Farmer Mac commits, subject to the applicable LTSPC agreement, to a future purchase of one or more loans from identified pools of eligible loans that met Farmer Mac's standards when the applicable transaction was entered into and Farmer Mac assumed the credit risk on the loans. The following table presents these significant commitments:

Table 35

	As of December 31,	
	2023	2022
	(in thousands)	
LTSPCs	$ 3,680,333	$ 3,423,155
Mandatory commitments to purchase loans and USDA Securities	31,049	9,907

For more information about Farmer Mac's commitments to purchase loans, see Note 12 to the consolidated financial statements.

Off-Balance Sheet Arrangements

Farmer Mac offers approved lenders two credit enhancement alternatives to increase their liquidity or lending capacity while retaining the cash flow benefits of their loans: (1) certain categories of Farmer Mac Guaranteed Securities; and (2) LTSPCs. Both products are available through each of the Agricultural Finance and Rural Infrastructure Finance lines of business. For securitization trusts where Farmer Mac is the primary beneficiary, the trust assets and liabilities are included on Farmer Mac's consolidated balance sheet. For securitization trusts where Farmer Mac is not the primary beneficiary and in the event of deconsolidation, both of these alternatives create off-balance sheet obligations for Farmer Mac. See Note 12 to the consolidated financial statements for more information about consolidation and Farmer Mac's off-balance sheet business activities.

As of December 31, 2023 and 2022, outstanding off-balance sheet LTSPCs and Farmer Mac Guaranteed Securities totaled $4.1 billion and $3.9 billion, respectively. The following table presents the balance of outstanding LTSPCs, off-balance sheet Farmer Mac Guaranteed Securities, and unfunded loan commitments as of December 31, 2023 and 2022:

Table 36

Outstanding Balance of LTSPCs and
Off-Balance Sheet Farmer Mac Guaranteed Securities

	As of December 31,	
	2023	2022
	(in thousands)	
Agricultural Finance:		
Corporate AgFinance:		
Unfunded loan commitments	$ 145,377	$ 77,654
Farm & Ranch:		
LTSPCs and unfunded loan commitments	2,999,943	2,822,309
Farmer Mac Guaranteed Securities	452,602	500,953
Total Agricultural Finance obligations	3,597,922	3,400,916
Rural Infrastructure:		
Rural Utilities:		
LTSPCs and unfunded loan commitments	487,778	512,592
Farmer Mac Guaranteed Securities	—	1,169
Renewable Energy:		
Unfunded loan commitments	47,235	10,600
Total Rural Infrastructure obligations	535,013	524,361
Total off-balance sheet	$ 4,132,935	$ 3,925,277

See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees" and Notes 2(c), 2(e), 5 and 12 to the consolidated financial statements for more information about Farmer Mac Guaranteed Securities and Notes 2(m) and 12 to the consolidated financial statements for more information about LTSPCs.

Other Matters

None.

Supplemental Information

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

Table 37

New Business Volume

	Agricultural Finance		Rural Infrastructure Finance		
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Total
			(in thousands)		
For the quarter ended:					
December 31, 2023	$ 1,282,045	$ 188,272	$ 434,511	$ 225,986	$ 2,130,814
September 30, 2023	1,384,273	275,932	607,979	17,390	2,285,574
June 30, 2023	1,574,169	218,136	294,292	71,611	2,158,208
March 31, 2023	750,040	203,211	683,232	89,747	1,726,230
December 31, 2022	1,114,255	165,395	140,222	43,737	1,463,609
September 30, 2022	1,927,209	169,932	547,117	61,653	2,705,911
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
For the year ended:					
December 31, 2023	$ 4,990,527	$ 885,551	$ 2,020,014	$ 404,734	$ 8,300,826
December 31, 2022	6,912,400	546,596	1,392,203	182,333	9,033,532

Table 38

Repayments of Assets					
	Agricultural Finance		Rural Infrastructure Finance		
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Total
			(in thousands)		
For the quarter ended:					
Scheduled	$ 827,122	$ 133,468	$ 53,614	$ 69,040	$ 1,083,244
Unscheduled	106,041	102,131	18,469	—	226,641
December 31, 2023	$ 933,163	$ 235,599	$ 72,083	$ 69,040	$ 1,309,885
Scheduled	$ 922,223	$ 110,383	$ 80,998	$ 14,716	$ 1,128,320
Unscheduled	108,960	104,999	20,578	—	234,537
September 30, 2023	$ 1,031,183	$ 215,382	$ 101,576	$ 14,716	$ 1,362,857
Scheduled	$ 1,050,480	$ 81,386	$ 558,944	$ 52,203	$ 1,743,013
Unscheduled	96,507	55,976	13,138	—	165,621
June 30, 2023	$ 1,146,987	$ 137,362	$ 572,082	$ 52,203	$ 1,908,634
Scheduled	$ 279,676	$ 78,482	$ 95,809	$ 11,424	$ 465,391
Unscheduled	231,288	128,254	57,354	—	416,896
March 31, 2023	$ 510,964	$ 206,736	$ 153,163	$ 11,424	$ 882,287
Scheduled	$ 447,976	$ 64,308	$ 75,671	$ 9,809	$ 597,764
Unscheduled	136,245	132,366	1,201	—	269,812
December 31, 2022	$ 584,221	$ 196,674	$ 76,872	$ 9,809	$ 867,576
Scheduled	$ 724,580	$ 38,018	$ 422,917	$ 13,429	$ 1,198,944
Unscheduled	296,763	64,439	—	—	361,202
September 30, 2022	$ 1,021,343	$ 102,457	$ 422,917	$ 13,429	$ 1,560,146
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
For the year ended:					
Scheduled	$ 3,079,501	$ 403,719	$ 789,365	$ 147,383	$ 4,419,968
Unscheduled	542,796	391,360	109,539	—	1,043,695
December 31, 2023	$ 3,622,297	$ 795,079	$ 898,904	$ 147,383	$ 5,463,663
Scheduled	$ 3,822,704	$ 183,968	$ 924,428	$ 38,926	$ 4,970,026
Unscheduled	1,154,105	287,955	3,389	—	1,445,449
December 31, 2022	$ 4,976,809	$ 471,923	$ 927,817	$ 38,926	$ 6,415,475

Table 39

Outstanding Business Volume

	Agricultural Finance		Rural Infrastructure Finance		
	Farm & Ranch	Corporate AgFinance	Rural Utilities	Renewable Energy	Total
			(in thousands)		
As of:					
December 31, 2023	$ 18,808,801	$ 1,693,979	$ 7,480,723	$ 487,521	$ 28,471,024
September 30, 2023	18,461,835	1,741,306	7,118,295	330,575	27,652,011
June 30, 2023	18,116,503	1,680,756	6,611,892	327,901	26,737,052
March 31, 2023	17,685,961	1,599,982	6,889,682	308,493	26,484,118
December 31, 2022	17,728,792	1,603,507	6,359,613	230,170	25,922,082
September 30, 2022	17,199,347	1,634,786	6,296,263	196,242	25,326,638
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

Table 40

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:				
December 31, 2023	$ 14,133,794	$ 3,171,672	$ 6,455,359	$ 23,760,825
September 30, 2023	13,727,280	3,019,317	6,255,690	23,002,287
June 30, 2023	13,721,129	3,003,560	5,493,104	22,217,793
March 31, 2023	13,607,740	3,020,229	5,924,032	22,552,001
December 31, 2022	13,693,810	3,031,288	5,251,427	21,976,525
September 30, 2022	13,810,162	2,960,596	4,644,958	21,415,716
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

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

Table 41

	Net Effective Spread[1]													
	Agricultural Finance				Rural Infrastructure Finance				Treasury					
	Farm & Ranch		Corporate AgFinance		Rural Utilities		Renewable Energy		Funding		Investments		Net Effective Spread	
	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield
	(dollars in thousands)													
For the quarter ended:														
December 31, 2023[2]	$33,329	0.98 %	$ 8,382	2.06 %	$ 7,342	0.43 %	$ 1,540	1.69 %	$33,361	0.47 %	$ 597	0.04 %	$84,551	1.19 %
September 30, 2023	32,718	0.97 %	8,250	2.05 %	6,362	0.39 %	1,150	1.46 %	34,412	0.49 %	532	0.04 %	83,424	1.20 %
June 30, 2023	34,388	1.03 %	7,444	1.92 %	5,808	0.38 %	1,100	1.47 %	32,498	0.48 %	594	0.04 %	81,832	1.20 %
March 31, 2023	32,465	0.97 %	7,148	1.94 %	5,507	0.36 %	858	1.53 %	31,738	0.47 %	(543)	(0.04)%	77,173	1.15 %
December 31, 2022[2]	32,770	0.98 %	7,471	1.94 %	4,960	0.34 %	935	1.76 %	27,656	0.42 %	(2,689)	(0.19)%	71,103	1.07 %
September 30, 2022	33,343	1.04 %	7,600	1.99 %	4,220	0.30 %	705	1.97 %	22,564	0.36 %	(2,791)	(0.21)%	65,641	1.03 %
June 30, 2022	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 %

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

(2) See Note 14 to the consolidated financial statements for a reconciliation of GAAP net interest income by segment to net effective spread by segment for the years ended December 31, 2023 and 2022.

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

Table 42

	Core Earnings by Quarter End								
	December 2023	September 2023	June 2023	March 2023	December 2022	September 2022	June 2022	March 2022	December 2021
	(in thousands)								
Revenues:									
Net effective spread	$ 84,551	$ 83,424	$ 81,832	$ 77,173	$ 71,103	$ 65,641	$ 60,946	$ 57,839	$ 54,333
Guarantee and commitment fees	4,865	4,828	4,581	4,654	4,677	4,201	4,709	4,557	4,637
Gains on sale of mortgage loans	—	—	—	—	—	—	—	—	6,539
Other	767	1,056	409	1,067	390	473	307	514	241
Total revenues	90,183	89,308	86,822	82,894	76,170	70,315	65,962	62,910	65,750
Credit related expense/(income):									
(Release of)/provision for losses	(575)	(181)	1,142	750	1,945	450	(1,535)	(54)	(1,428)
REO operating expenses	—	—	—	—	819	—	—	—	—
Total credit related expense/ (income)	(575)	(181)	1,142	750	2,764	450	(1,535)	(54)	(1,428)
Operating expenses:									
Compensation and employee benefits	15,523	14,103	13,937	15,351	12,105	11,648	11,715	13,298	11,246
General and administrative	8,916	9,100	9,420	7,527	8,055	6,919	7,520	7,278	8,492
Regulatory fees	725	831	831	835	832	812	813	812	812
Total operating expenses	25,164	24,034	24,188	23,713	20,992	19,379	20,048	21,388	20,550
Net earnings	65,594	65,455	61,492	58,431	52,414	50,486	47,449	41,576	46,628
Income tax expense	13,881	13,475	12,539	12,756	11,210	10,303	9,909	9,024	9,809
Preferred stock dividends	6,791	6,792	6,791	6,791	6,791	6,791	6,792	6,791	6,792
Core earnings	$ 44,922	$ 45,188	$ 42,162	$ 38,884	$ 34,413	$ 33,392	$ 30,748	$ 25,761	$ 30,027
Reconciling items:									
(Losses)/gains on undesignated financial derivatives due to fair value changes	$ (836)	$ 2,921	$ 2,141	$ 916	$ 1,596	$ 6,441	$ 2,846	$ 2,612	$ (1,242)
(Losses)/gains on hedging activities due to fair value changes	(3,598)	3,210	(4,901)	(105)	(148)	(624)	428	5,687	(2,079)
Unrealized (losses)/gains on trading assets	(37)	1,714	(57)	359	31	(757)	(285)	94	(76)
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	88	29	29	29	57	24	(62)	20	71
Net effects of terminations or net settlements on financial derivatives	(800)	(79)	583	523	1,268	(3,522)	2,536	15,512	(429)
Income tax effect related to reconciling items	1,089	(1,638)	464	(362)	(590)	(327)	(1,148)	(5,024)	789
Net income attributable to common stockholders	$ 40,828	$ 51,345	$ 40,421	$ 40,244	$ 36,627	$ 34,627	$ 35,063	$ 44,662	$ 27,061

Item 7A. 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 6 to the consolidated financial statements.

Item 8. Financial Statements
Management's Report on Internal Control over Financial Reporting

The management of Farmer Mac is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed under the supervision of Farmer Mac's Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of Farmer Mac's financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Farmer Mac's internal control over financial reporting includes those policies and procedures that: (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of Farmer Mac; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of Farmer Mac are being made only in accordance with authorizations of management and directors of Farmer Mac; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of Farmer Mac's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of Farmer Mac's Chief Executive Officer and Chief Financial Officer, Farmer Mac's management assessed the effectiveness of Farmer Mac's internal control over financial reporting as of December 31, 2023. In making this assessment, Farmer Mac's management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control - Integrated Framework (2013)*. Based on its evaluation under the COSO criteria, management concluded that Farmer Mac's internal control over financial reporting as of December 31, 2023 was effective.

Farmer Mac's independent registered public accounting firm, PricewaterhouseCoopers LLP, has audited the effectiveness of Farmer Mac's internal control over financial reporting as of December 31, 2023, as stated in their report appearing below.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
of the Federal Agricultural Mortgage Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of the Federal Agricultural Mortgage Corporation and its subsidiaries (the "Company") as of December 31, 2023 and 2022, and the related consolidated statements of operations, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2023, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of AgVantage Farmer Mac Guaranteed Securities

As disclosed by management, the Company guarantees and purchases general obligations of lenders and other financial institutions that are secured by pools of the types of loans eligible for purchase under Farmer Mac's Agricultural Finance or Rural Infrastructure Finance lines of business, which are referred to as AgVantage securities. As described in Notes 5 and 13 to the consolidated financial statements, the total unpaid principal balance of AgVantage securities as of December 31, 2023 was $10.0 billion, and the fair value of the AgVantage securities of December 31, 2023 was $9.6 billion. The fair value of AgVantage securities is estimated using a discounted cash flow model. The significant unobservable input used is the discount rate commensurate with the risks involved.

The principal considerations for our determination that performing procedures relating to the valuation of AgVantage securities is a critical audit matter are (i) the high degree of audit effort in performing procedures and evaluating audit evidence related to the discount rate assumption used by management in the valuation of the AgVantage securities, and (ii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the valuation of AgVantage securities, including controls over the model, data and assumption. These procedures also included, among others, (i) the involvement of professionals with specialized skill and knowledge to assist in developing an independent range of prices for a sample of AgVantage securities, and (ii) comparing management's estimate to the independently developed range to evaluate the reasonableness of management's estimate. Developing the independent range of prices involved testing the completeness and accuracy of data provided by management and independently developing the discount rate assumption.

/s/ PricewaterhouseCoopers LLP
Washington, District of Columbia
February 23, 2024

We have served as the Company's auditor since 2010.

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	As of	
	December 31, 2023	December 31, 2022
	(in thousands)	
Assets:		
Cash and cash equivalents	$ 888,707	$ 861,002
Investment securities:		
Available-for-sale, at fair value (amortized cost of $5,060,135 and $4,769,426, respectively)	4,918,931	4,579,564
Held-to-maturity, at amortized cost	53,756	45,032
Other investments	6,817	3,672
Total Investment Securities	4,979,504	4,628,268
Farmer Mac Guaranteed Securities:		
Available-for-sale, at fair value (amortized cost of $5,825,433 and $8,019,495, respectively)	5,532,479	7,607,226
Held-to-maturity, at amortized cost	4,213,069	1,021,154
Total Farmer Mac Guaranteed Securities	9,745,548	8,628,380
USDA Securities:		
Trading, at fair value	1,241	1,767
Held-to-maturity, at amortized cost	2,354,171	2,409,834
Total USDA Securities	2,355,412	2,411,601
Loans:		
Loans held for investment, at amortized cost	9,623,119	9,008,979
Loans held for investment in consolidated trusts, at amortized cost	1,432,261	1,211,576
Allowance for losses	(16,031)	(15,089)
Total loans, net of allowance	11,039,349	10,205,466
Financial derivatives, at fair value	37,478	37,409
Accrued interest receivable (includes $16,764 and $12,514, respectively, related to consolidated trusts)	287,128	229,061
Guarantee and commitment fees receivable	49,832	47,151
Deferred tax asset, net	8,470	18,004
Prepaid expenses and other assets	132,954	266,768
Total Assets	$ 29,524,382	$ 27,333,110
Liabilities and Equity:		
Liabilities:		
Notes payable	$ 26,336,542	$ 24,469,113
Debt securities of consolidated trusts held by third parties	1,351,069	1,181,948
Financial derivatives, at fair value	117,131	175,326
Accrued interest payable (includes $9,407 and $8,081, respectively, related to consolidated trusts)	181,841	117,887
Guarantee and commitment obligation	47,563	46,582
Accounts payable and accrued expenses	76,662	68,863
Reserve for losses	1,711	1,433
Total Liabilities	28,112,519	26,061,152
Commitments and Contingencies (Note 12)		
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, 9,310,872 shares and 9,270,265 shares outstanding, respectively	9,311	9,270
Additional paid-in capital	132,919	128,939
Accumulated other comprehensive loss, net of tax	(40,145)	(50,843)
Retained earnings	823,716	698,530
Total Equity	1,411,863	1,271,958
Total Liabilities and Equity	$ 29,524,382	$ 27,333,110

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Years Ended December 31,		
	2023	2022	2021
	(in thousands, except per share amounts)		
Interest income:			
Investments and cash equivalents	$ 287,144	$ 82,659	$ 18,660
Farmer Mac Guaranteed Securities and USDA Securities	590,250	283,769	164,723
Loans	514,894	350,420	242,582
Total interest income	1,392,288	716,848	425,965
Total interest expense	1,064,741	445,908	204,014
Net interest income	327,547	270,940	221,951
(Provision for)/release of losses	(858)	(1,323)	860
Net interest income after (provision for)/release of losses	326,689	269,617	222,811
Non-interest income/(expense):			
Guarantee and commitment fees	16,712	13,040	12,669
Gains on financial derivatives	2,882	22,631	324
Gains on sale of mortgage loans	—	—	6,539
Gains/(losses) on trading securities	24	(51)	(115)
Gains on sale of available-for-sale investment securities	—	—	253
(Provision for)/release of reserve for losses	(278)	517	1,327
Other income	4,171	2,551	2,069
Non-interest income	23,511	38,688	23,066
Operating expenses:			
Compensation and employee benefits	58,914	48,766	42,847
General and administrative	34,963	29,772	27,507
Regulatory fees	3,222	3,269	3,062
Real estate owned operating costs, net	—	819	—
Operating expenses	97,099	82,626	73,416
Income before income taxes	253,101	225,679	172,461
Income tax expense	53,098	47,535	36,372
Net income	200,003	178,144	136,089
Preferred stock dividends	(27,165)	(27,165)	(24,677)
Net income attributable to common stockholders	$ 172,838	$ 150,979	$ 111,412
Earnings per common share:			
Basic earnings per common share	$ 15.97	$ 14.00	$ 10.36
Diluted earnings per common share	$ 15.81	$ 13.87	$ 10.27

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Net income	$ 200,003	$ 178,144	$ 136,089
Other comprehensive income/(loss):			
Net unrealized gains/(losses) on available-for-sale securities	59,640	(137,506)	8,867
Net changes in held-to-maturity securities	(31,750)	259	(8,451)
Net unrealized (losses)/gains on cash flow hedges	(14,348)	68,012	22,084
Other comprehensive income/(loss) before tax	13,542	(69,235)	22,500
Income tax (expense)/benefit related to other comprehensive income/(loss)	(2,844)	14,539	(4,724)
Other comprehensive income/(loss) net of tax	10,698	(54,696)	17,776
Comprehensive income	$ 210,701	$ 123,448	$ 153,865

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income/(Loss)	Retained Earnings	Total Equity
	Shares	Amount	Shares	Amount				
					(in thousands)			
Balance as of December 31, 2020	14,980	$ 363,204	10,737	$ 10,737	$ 122,899	$ (13,923)	$ 515,018	$ 997,935
Net Income	—	—	—	—	—	—	136,089	136,089
Other comprehensive income, net of tax	—	—	—	—	—	17,776	—	17,776
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(24,677)	(24,677)
Common stock (cash dividend of $0.88 per share)	—	—	—	—	—	—	(37,873)	(37,873)
Issuance of Series G Preferred Stock	5,000	121,327	—	—	—	—	—	121,327
Issuance of Class C Common Stock	—	—	29	29	116	—	—	145
Stock-based compensation cost	—	—	—	—	4,310	—	—	4,310
Other stock-based award activity	—	—	—	—	(1,332)	—	—	(1,332)
Balance as of December 31, 2021	19,980	$ 484,531	10,766	$ 10,766	$ 125,993	$ 3,853	$ 588,557	$1,213,700
Net Income	—	—	—	—	—	—	178,144	178,144
Other comprehensive loss, net of tax	—	—	—	—	—	(54,696)	—	(54,696)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(27,165)	(27,165)
Common stock (cash dividend of $0.95 per share)	—	—	—	—	—	—	(41,006)	(41,006)
Issuance of Class C Common Stock	—	—	35	35	190	—	—	225
Stock-based compensation cost	—	—	—	—	4,625	—	—	4,625
Other stock-based award activity	—	—	—	—	(1,869)	—	—	(1,869)
Balance as of December 31, 2022	19,980	$ 484,531	10,801	$ 10,801	$ 128,939	$ (50,843)	$ 698,530	$1,271,958
Net Income	—	—	—	—	—	—	200,003	200,003
Other comprehensive income, net of tax	—	—	—	—	—	10,698	—	10,698
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(27,165)	(27,165)
Common stock (cash dividend of $1.10 per share)	—	—	—	—	—	—	(47,652)	(47,652)
Issuance of Class C Common Stock	—	—	41	41	233	—	—	274
Stock-based compensation cost	—	—	—	—	6,801	—	—	6,801
Other stock-based award activity	—	—	—	—	(3,054)	—	—	(3,054)
Balance as of December 31, 2023	19,980	$ 484,531	10,842	$ 10,842	$ 132,919	$ (40,145)	$ 823,716	$1,411,863

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Years Ended		
	2023	2022	2021
		(in thousands)	
Cash flows from operating activities:			
Net income	$ 200,003	$ 178,144	$ 136,089
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	(17,025)	720	17,314
Amortization of debt premiums, discounts, and issuance costs	31,421	19,656	6,780
Net change in fair value of trading securities, hedged items, and financial derivatives	78,249	689,998	205,701
Gain on the sale of available-for-sale investment securities	—	—	(253)
Gain on the sale of mortgage loans	—	—	(6,539)
Total provision for/(release of) allowance for losses	1,136	806	(2,187)
Excess tax benefits related to stock-based awards	523	101	292
Deferred income taxes	6,690	12,406	(1,630)
Stock-based compensation expense	6,801	4,624	4,311
Proceeds from repayment of loans purchased as held for sale	24,378	33,311	46,968
Net change in:			
Interest receivable	(63,944)	(63,777)	4,446
Guarantee and commitment fees receivable	(1,700)	1,043	(34)
Other assets	54,369	(126,054)	(9,830)
Accrued interest payable	63,954	58,884	(9,526)
Custodial deposit liability	(10,778)	(7,666)	44,955
Other liabilities	1,721	7,075	(445)
Net cash provided by operating activities	375,798	809,271	436,412
Cash flows from investing activities:			
Purchases of available-for-sale and held-to-maturity investment securities	(1,573,707)	(2,472,056)	(2,004,911)
Purchases of other investment securities	(3,145)	(2,443)	(1,229)
Purchases of Farmer Mac Guaranteed Securities and USDA Securities	(4,453,284)	(5,275,733)	(4,380,901)
Purchases of loans held for investment	(2,164,053)	(2,592,924)	(2,916,493)
Purchases of defaulted loans	—	—	(8,713)
Proceeds from repayment of available-for-sale and held-to-maturity investment securities	1,397,096	1,440,201	1,740,000
Proceeds from repayment of Farmer Mac Guaranteed Securities and USDA Securities	3,478,124	4,429,364	4,027,726
Proceeds from repayment of loans purchased as held for investment	1,363,588	1,321,989	1,889,408
Proceeds from sale of loans previously classified as held for investment	—	9,000	301,393
Proceeds from sale of available-for-sale investment securities	—	—	257,524
Proceeds from sale of Farmer Mac Guaranteed Securities	—	99,643	—
Net cash used in investing activities	(1,955,381)	(3,042,959)	(1,096,196)
Cash flows from financing activities:			
Proceeds from issuance of discount notes	49,291,165	52,470,273	61,112,365
Proceeds from issuance of medium-term notes	8,274,618	9,031,116	11,173,147
Proceeds from third parties from issuance of debt securities of consolidated trusts	222,188	258,198	—
Payments to redeem discount notes	(48,138,591)	(54,085,418)	(60,743,066)
Payments to redeem medium-term notes	(7,862,450)	(5,192,159)	(10,586,370)
Payments to third parties on debt securities of consolidated trusts	(102,045)	(226,291)	(480,272)
Proceeds from common stock issuance	233	192	117
Proceeds from preferred stock issuance, net of stock issuance costs	—	—	121,327
Tax payments related to share-based awards	(3,013)	(1,835)	(1,305)
Dividends paid on common and preferred stock	(74,817)	(68,171)	(61,315)
Net cash provided by financing activities	1,607,288	2,185,905	534,628
Net change in cash and cash equivalents	27,705	(47,783)	(125,156)
Cash and cash equivalents at beginning of period	861,002	908,785	1,033,941
Cash and cash equivalents at end of period	$ 888,707	$ 861,002	$ 908,785
Cash paid during the period for:			
Interest	582,960	269,327	198,593
Income taxes	48,000	33,800	36,300
Non-cash activity:			
Loans securitized as Farmer Mac Guaranteed Securities	36,497	162,875	113,175
Loans held for investment transferred to consolidated trusts	281,027	297,713	—
Reclassification of loans held for investment to loans held for sale	—	—	301,551

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

1. ORGANIZATION

The Federal Agricultural Mortgage Corporation ("Farmer Mac") is a stockholder-owned, federally chartered instrumentality of the United States established under Title VIII of the Farm Credit Act of 1971, as amended (12 U.S.C. §§ 2279aa et seq.), which is sometimes referred to as Farmer Mac's charter. Farmer Mac was originally created by the United States Congress to provide a secondary market for a variety of loans made to borrowers in rural America. This secondary market is designed to increase the availability of long-term credit at stable interest rates to America's rural communities and to provide rural borrowers with the benefits of capital markets pricing and product innovation.

Farmer Mac's secondary market activities include:

- purchasing eligible loans directly from lenders (including participation interests, syndicated notes, revolving and non-revolving credit facilities, and unfunded commitments to make advances on loans);
- guaranteeing and purchasing securities issued by lenders and other financial institutions that are secured by pools of eligible loans (Farmer Mac refers to these securities as "AgVantage," a registered trademark of Farmer Mac);
- issuing and guaranteeing securities that represent interests in, or obligations secured by, pools of eligible loans (together with AgVantage, Farmer Mac refers to these securities as "Farmer Mac Guaranteed Securities");
- servicing (including as master servicer) eligible loans purchased or securitized by Farmer Mac; and
- providing long-term standby purchase commitments ("LTSPCs") for eligible loans.

Farmer Mac conducts its secondary market activities through two lines of business — Agricultural Finance and Rural Infrastructure Finance. For more information about those lines of business and the segments within them, see Note 14 - Business Segments.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting and reporting policies of Farmer Mac conform with accounting principles generally accepted in the United States of America ("generally accepted accounting principles" or "GAAP"). The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates. The following are the significant accounting policies that Farmer Mac follows in preparing and presenting its consolidated financial statements:

(a) Principles of Consolidation

The consolidated financial statements include the accounts of Farmer Mac and its two subsidiaries during the year: (1) Farmer Mac Mortgage Securities Corporation, 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.

(b) Cash and Cash Equivalents

Farmer Mac considers cash on hand and highly liquid investment securities with maturities at the time of purchase of three months or less to be cash equivalents.

(c) Investment Securities, Farmer Mac Guaranteed Securities, and USDA Securities

Securities for which Farmer Mac has the intent and ability to hold to maturity are classified as held-to-maturity and are carried at amortized cost. Securities for which Farmer Mac does not have the positive intent and ability to hold to maturity are classified as available-for-sale or trading and are carried at estimated fair value. Unrealized gains and losses on available-for-sale securities are reported as a component of accumulated other comprehensive income in stockholders' equity. For securities classified as trading, unrealized gains and losses are included in earnings. Gains and losses on the sale of available-for-sale and trading securities are determined using the specific identification cost method.

Farmer Mac determines the fair value of investment securities using quoted market prices, when available. Farmer Mac determines the fair values of certain investment securities for which quoted market prices are not available, Farmer Mac Guaranteed Securities, and USDA Securities based on the present value of the associated expected future cash flows. In estimating the present value of the expected future cash flows, management is required to make estimates and assumptions. The key estimates and assumptions include discount rates and collateral repayment rates. Premiums, discounts, and other deferred costs are amortized to interest income using the effective interest method.

Farmer Mac generally receives compensation when loans with yield maintenance provisions underlying Farmer Mac Guaranteed Securities prepay. These yield maintenance payments mitigate Farmer Mac's exposure to reinvestment risk and are calculated such that, when reinvested with the prepaid principal, they should generate substantially the same cash flows that would have been generated had the loans not prepaid. Yield maintenance payments are recognized as interest income in the consolidated statements of operations upon receipt.

Interest Income Recognition on Interest-Only Farmer Mac Guaranteed Securities ("IO-FMGS")

Farmer Mac recognizes interest income for its IO-FMGS by applying the effective yield methodology required by GAAP for financial assets that are either not of high credit quality at the time of acquisition or can be contractually prepaid or otherwise settled in such a way that Farmer Mac would not recover substantially all of its recorded investment. The amount of periodic interest income recognized is determined by applying the IO-FMGS effective interest rate to its amortized cost basis (or “reference amount”). At the time of acquisition, the effective interest rate is calculated by solving for the single discount rate that equates the present value of Farmer Mac's best estimate of the amount and timing of the cash flows expected to be collected from the IO-FMGS to its purchase cost. To prepare its best estimate of cash flows expected to be collected, Farmer Mac develops a number of assumptions about the future performance of the pool of mortgage loans that serve as collateral, including assumptions about the timing and amount of prepayments and credit losses. In each subsequent quarterly reporting period, the amount and timing of cash flows expected to be collected from the IO-FMGS are re-estimated based upon current information and events.

(d) Loans

Loans for which Farmer Mac has the positive intent and ability to hold for the foreseeable future are classified as held for investment and reported at their unpaid principal balance, net of unamortized purchase discounts or premiums. Loans for which Farmer Mac does not have the positive intent and ability to hold for the foreseeable future are classified as held for sale and reported at the lower of cost or fair value determined on a pooled basis. Farmer Mac de-recognizes sold loans, and recognizes any associated gain or loss, when they have been legally isolated from Farmer Mac, the buyer has the right to pledge or exchange them, and Farmer Mac does not maintain effective control over them. When Farmer Mac consolidates a trust, it recognizes the loans underlying the trust in the consolidated balance sheets as "Loans held for investment in consolidated trusts, at amortized cost." See Note 2(o) for more information on the accounting policy related to consolidation.

Non-accrual Loans

Non-accrual loans are loans for which it is probable that Farmer Mac will be unable to collect all amounts due according to the contractual terms of the loan agreement and include all loans 90 days or more past due. When a loan becomes 90 days past due, interest accrual on the loan is discontinued and interest previously accrued is reversed against interest income in the current period. The interest on such loans is accounted for on the cash basis until a loan qualifies for return to accrual status. Loans are returned to accrual status when all the principal and interest payments contractually due are collected and certain performance criteria are met.

(e) Securitization

Securitization involves the transfer of financial assets to another entity in exchange for cash and/or beneficial interests in the assets transferred. Farmer Mac or third parties transfer agricultural mortgage loans, Rural Infrastructure loans, or USDA securities into trusts that are used as vehicles for the securitization of the transferred financial assets. The trusts issue Farmer Mac Guaranteed Securities that are beneficial interests in the assets of the trusts, to either Farmer Mac or third-party investors. Farmer Mac guarantees principal and interest payments on the securities issued by the trusts and receives guarantee fees as compensation for its guarantee. Farmer Mac recognizes guarantee fees on the accrual basis over the terms of the Farmer Mac Guaranteed Securities, which generally coincide with the terms of the underlying loans. As such, no guarantee fees are unearned at the end of any reporting period.

Farmer Mac is required to perform under its guarantee obligation when the underlying loans for the off-balance sheet Farmer Mac Guaranteed Securities do not make their scheduled installment payments. When a loan underlying a Farmer Mac Guaranteed Security (other than Farmer Mac Guaranteed Securities structured as real estate mortgage investment conduits under 26 U.S.C. §§ 860A-860G) becomes 90 days or more past due, Farmer Mac may, in its sole discretion, repurchase the loan from the trust and generally does repurchase such loans, thereby reducing the principal balance of the outstanding Farm & Ranch Guaranteed Security. When Farmer Mac purchases a delinquent loan underlying a Farmer Mac Guaranteed Security, Farmer Mac stops accruing the guarantee fee upon loan purchase.

If Farmer Mac repurchases a loan that is collateral for a Farmer Mac Guaranteed Security, Farmer Mac would have the right to enforce the terms of the loan, and in the event of a default, would have access to the underlying collateral. Farmer Mac typically recovers its investment in the defaulted loans purchased either through borrower payments, loan payoffs, payments by third parties, or foreclosure and sale of the collateral securing the loans.

Farmer Mac has recourse to the USDA for any amounts advanced for the timely payment of principal and interest on Farmer Mac Guaranteed USDA Securities. That recourse is the USDA guarantee, a full-faith-and-credit obligation of the United States that becomes enforceable if a lender fails to repurchase the USDA-guaranteed portion from its owner within 30 days after written demand from the owner when (a) the borrower under the guaranteed loan is in default not less than 60 days in the payment of any principal or interest due on the USDA-guaranteed portion, or (b) the lender has failed to remit to the owner the payment made by the borrower on the USDA-guaranteed portion or any related loan subsidy within 30 days after the lender's receipt of the payment.

Transfers of Financial Assets

Farmer Mac accounts for transfers of financial assets as sales when it has surrendered control over the related assets. Whether control has been relinquished requires, among other things, an evaluation of relevant legal considerations and an assessment of the nature and extent of Farmer Mac's continuing involvement with the assets transferred. Gains and losses stemming from transfers reported as sales are included in "Gain on sale of mortgage loans" in the accompanying consolidated statements of operations. Assets obtained and liabilities incurred in connection with transfers reported as sales are initially recognized in the consolidated balance sheets at fair value.

In fourth quarter 2021, Farmer Mac executed a structured securitization of a $299.4 million pool of Farm & Ranch loans. The securitization consisted of two classes of securities, Class A and Class B. The Class A securities are backed by 92.5% of the pool and is guaranteed by Farmer Mac. The Class B Tranche is backed by the remaining 7.5% of the pool. Credit losses on the entire pool are first allocated to the Class B securities. As a result of the transaction, Farmer Mac recognized the following:

1. A guarantee asset and liability related to the guarantee fees and the obligation to stand ready to perform on the guarantee to the Class A security holders.
2. A servicing asset related to Farmer Mac's role as Master and Central Servicer. Farmer Mac will earn a related servicing fee.
3. A retained interest-only strip of a Farmer Mac Guaranteed Security (IO-FMGS) security.

The above assets and liabilities were initially recorded on the consolidated balance sheets at fair value. For more information on fair value measurement see Footnote 13.

The securitization trust used to effect this transaction was a variable interest entity that Farmer Mac does not consolidate. See Table 2.4 below for more information about these trusts.

Gains or losses arising from securitization are recorded as the difference between the transferred loans' carrying values and the sum of (a) the initial fair value of the assets or liabilities received and (b) net cash proceeds. For the year ended December 31, 2021, Farmer Mac recorded $6.5 million in gains attributable to securitization activity. These gains were reported in "Gains on sale of mortgage loans" in the consolidated statements of operations. Farmer Mac recorded no gains attributable to securitization activity for both the years ended December 31, 2023 and 2022.

(f) Financial Derivatives

Farmer Mac enters into financial derivative transactions principally to protect against risk from the effects of market price or interest rate movements on the value of certain assets, future cash flows or debt issuance, not for trading or speculative purposes. Farmer Mac enters into interest rate swap contracts to adjust the characteristics of its short-term debt to match more closely the cash flow and duration characteristics of its longer-term loans and other assets, and also to adjust the characteristics of its long-term debt to match more closely the cash flow and duration characteristics of its short-term assets, thereby reducing interest rate risk and, often times, deriving an overall lower effective cost of borrowing than would otherwise be available to Farmer Mac in the conventional debt market.

Accounting for financial derivatives differs depending on whether a derivative is designated in a hedge accounting relationship. Derivative instruments designated in fair value hedge accounting relationships mitigate exposure to changes in the fair value of assets or liabilities. Derivative instruments designated in cash flow hedge accounting relationships mitigate exposure to the variability in expected future cash flows or other forecasted transactions. In order to qualify for fair value or cash flow hedge accounting treatment, documentation must indicate the intention to designate the derivative as a hedge of a specific asset, or liability, or a future cash flow. Effectiveness of the hedge is assessed before the end of the quarter of inception and monitored over the life of the hedging relationship.

Changes in the fair values of financial derivatives not designated as cash flow or fair value hedges were reported in "Gains 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 hedged items related to the risk being hedged are reported in the same interest income or expense line item as income or expense from the hedged financial asset or liability in the consolidated statements of operations. Interest accruals on derivatives designated in fair value hedge relationships are also recorded in "Net interest income" in the consolidated statements of operations. For financial derivatives designated in cash flow hedge relationships, the unrealized gain or loss on the derivative is recorded in other comprehensive income. Because the hedging instrument is an interest rate swap and the hedged forecasted transactions are future interest payments on variable rate debt, amounts recorded in accumulated other comprehensive income are reclassified to "Total interest expense" in conjunction with the recognition of interest expense on the debt.

Collateralized Agreements and Offsetting Arrangements

Over-the-Counter Derivatives

Farmer Mac uses master netting and collateral agreements to reduce our credit risk exposure to our over-the-counter derivative ("OTC") counterparties for interest-rate swap derivatives. Master netting agreements provide for the netting of amounts receivable and payable from an individual counterparty, as well as posting of collateral in the form of cash depending on which party is in a liability position.

Farmer Mac has master netting agreements in place with most of our OTC derivative counterparties. The market value of each counterparty's derivatives outstanding is calculated to determine the amount of our net credit exposure, which is equal to the market value of derivatives in net gain position by counterparty after giving consideration to collateral posted. In the event a counterparty defaults on its obligation under the derivatives agreement and the default is not remedied in the manner prescribed by the agreement, Farmer Mac has a right under the agreement to sell the collateral. As a result, Farmer Mac's use of master netting and collateral agreements reduce our exposure to our counterparties in the event of default.

Cleared Derivatives

The majority of Farmer Mac's interest-rate swaps are subject to the central clearing requirement. Changes in the value of cleared derivatives are settled daily via payments made through the clearinghouse. Farmer Mac nets the exposure by clearinghouse and clearing member.

See Notes 6 and 13 for more information on financial derivatives.

(g) Notes Payable

Debt issuance costs and premiums and discounts are deferred and amortized to interest expense using the effective interest method over the contractual life of the related debt.

(h) Allowance for Losses and Reserve for Losses

Farmer Mac's allowance for credit losses represents the difference between the carrying amount of the related financial instruments and the present value of their expected cash flows discounted at their effective interest rates, as of the respective balance sheet date. Farmer Mac's reserve for credit losses represents the difference between the outstanding amount of off-balance sheet credit exposures and the present value of their expected cash flows discounted at their effective interest rates.

Farmer Mac maintains an allowance for credit losses to cover current expected credit losses as of the balance sheet date for on-balance sheet investment securities, loans held for investment, and Farmer Mac Guaranteed Securities (collectively referred to as "allowance for losses"). Farmer Mac also maintains a reserve for credit losses to cover current expected credit losses as of the balance sheet date for off-balance sheet loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities (collectively referred to as "reserve for losses"). Both the allowance for losses and reserve for losses are based on historical information and reasonable and supportable forecasts.

Farmer Mac has never experienced a credit loss in its Rural Infrastructure Finance line of business. Farmer Mac measures its expected credit losses for the expected life of all financial instruments, including its Rural Infrastructure Finance loans. To estimate expected credit losses on these loans, Farmer Mac relies upon industry historical credit loss data from ratings agencies and publicly available information as disclosed in the securities filings of other major lenders who serve the utilities and renewable industries.

The allowance for losses increases through periodic provisions for loan losses that are charged against net interest income and the reserve for losses increases through provisions for losses that are charged to non-interest expense. Both the allowance for losses and reserve for losses are decreased by charge-offs for realized losses, net of recoveries. Releases from the allowance for losses or reserve for losses occur when the estimate of expected credit losses as of the end of a period is less than the estimate at the beginning of the period.

The total allowance for losses consists of the allowance for losses and the reserve for losses.

Charge-offs

Farmer Mac records a charge-off from the allowance for losses when either a) a loan, or a portion of a loan, is deemed uncollectible; or b) a loss has been confirmed through the receipt of assets, generally the underlying collateral, in full satisfaction of the loan. The charge-off equals the excess of the recorded investment in the loan over the fair value of the collateral less estimated selling costs.

Estimation Methodology

Farmer Mac bases its methodology for determining its current estimate of expected losses on a statistical model, which incorporates credit loss history and reasonable and supportable forecasts. Farmer Mac's estimation methodology includes the following key components:

- An economic model for each portfolio, including Agricultural Finance loans (Corporate AgFinance and Farm & Ranch), Rural Infrastructure Finance loans (Rural Utilities and Renewable Energy), and AgVantage Securities;
- A migration matrix for each portfolio that reasonably predicts the movement of each financial asset among various risk categories over the course of each asset's expected life (the migration matrix forms the basis for our estimate of the probability of default of each financial asset);
- A loss-given-default ("LGD") model that reasonably predicts the amount of loss that Farmer Mac would incur upon the default of each financial asset;
- An economic factor forecast that updates the migration matrix model and the LGD model with current assumptions for the economic indicators that Farmer Mac has determined are most correlated with or relevant to the performance of each portfolio of assets (including Gross Domestic Product ("GDP"), credit spreads, unemployment rates, land values, and commodity prices); and
- A discounted cash flow analysis, which relies upon each of the above model outputs, plus the contractual terms of each financial asset, and the effective interest rate of each financial asset.

Management evaluates these assumptions by considering many relevant factors, including:

- economic conditions;
- geographic and agricultural commodity/product concentrations in the portfolio;
- the credit profile of the portfolio, including risk ratings and financial metrics;
- delinquency trends of the portfolio;
- historical charge-off and recovery activities of the portfolio; and
- other factors to capture current portfolio trends and characteristics that differ from historical experience.

Management believes that its methodology produces a reasonable estimate of expected credit losses, as of the balance sheet date, for the expected life of all of its financial assets.

Allowance for Loss on Available-for-Sale (AFS) Securities

To measure current expected credit losses on impaired AFS securities, Farmer Mac first considers those impaired securities that: 1) Farmer Mac does not intend to sell, and 2) it is not more likely than not that Farmer Mac will be required to sell before recovering its amortized cost basis. In assessing whether a credit loss exists, Farmer Mac compares the present value, discounted at the security's effective interest rate, of cash flows expected to be collected from an impaired AFS debt security to its amortized cost basis. If the present value of cash flows expected to be collected is less than the amortized cost basis of the impaired security, a credit loss exists and Farmer Mac records an allowance for loss for that credit loss. However, the amount of that allowance is limited by the amount that the security's fair value is less than its amortized cost basis. Accrued interest receivable is recorded separately on the Consolidated Balance Sheet, and the allowance for credit losses excludes uncollectible accrued interest receivable.

Collateral Dependent Assets ("CDAs")

CDAs are loans, loans underlying LTSPCs, or off-balance sheet credit exposures in which the borrower is either in foreclosure or is experiencing financial difficulty and repayment is expected to be provided substantially through the sale or operation of the collateral by Farmer Mac. Farmer Mac estimates the current expected credit loss on CDAs based upon the appraised value of the collateral, the costs to sell it, and any applicable credit protection such as a guarantee.

(i) 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 unit awards. The following schedule reconciles basic and diluted EPS for the years ended December 31, 2023, 2022 and 2021:

Table 2.1

	For the Years Ended December 31,								
	2023			2022			2021		
	Net Income	Weighted -Average Shares	$ per Share	Net Income	Weighted -Average Shares	$ per Share	Net Income	Weighted -Average Shares	$ per Share
	(in thousands, except per share amounts)								
Basic EPS									
Net income attributable to common stockholders	$172,838	10,829	$ 15.97	$150,979	10,791	$ 14.00	$111,412	10,758	$ 10.36
Effect of dilutive securities[(1)]									
SARs and restricted stock units	—	108	(0.16)	—	92	(0.13)	—	88	(0.09)
Diluted EPS	$172,838	10,937	$ 15.81	$150,979	10,883	$ 13.87	$111,412	10,846	$ 10.27

(1) For years ended December 31, 2023, 2022 and 2021, SARs and restricted stock units of 32,683, 32,448, and 39,326 respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because they were anti-dilutive. For the years ended December 31, 2023, 2022 and 2021, contingent shares of unvested restricted stock units of 30,648, 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.

(j) Income Taxes

Deferred federal income tax assets and liabilities are established for temporary differences between financial and taxable income and are measured using the current enacted statutory tax rate. Income tax expense is equal to the income taxes payable in the current year plus the net change in the deferred tax asset or liability balance.

Deferred tax assets are measured at rates enacted for the periods in which they are expected to be realized. To the extent rates change, the deferred tax asset will be adjusted to reflect the new rate. A increase in corporate tax rates would result in an increase in the value of the deferred tax asset.

Farmer Mac evaluates its tax positions quarterly to identify and recognize any liabilities related to uncertain tax positions in its federal income tax returns. Farmer Mac uses a two-step approach in which income tax benefits are recognized if, based on the technical merits of a tax position, it is more likely than not (a probability of greater than 50%) that the tax position would be sustained upon examination by the taxing authority, which includes all related appeals and litigation process. The amount of tax benefit recognized is then measured at the largest amount of tax benefit that is greater than 50% likely to be realized upon settlement with the taxing authority, considering all information available at the reporting date. Farmer Mac's policy for recording interest and penalties associated with uncertain tax positions is to record them as a component of income tax expense. Farmer Mac establishes a valuation allowance for deferred tax assets if it is more likely than not that some portion or all of the deferred tax assets will not be realized. In determining its deferred tax asset valuation allowance, Farmer Mac considered its taxable income of the appropriate character (for example, ordinary income or capital gain) within the carryback and carryforward periods available under the tax law and the impact of possible tax planning strategies.

(k) Stock-Based Compensation

Farmer Mac accounts for its stock-based employee compensation plans using the grant date fair value method of accounting. Farmer Mac measures the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award determined using the Black-Scholes option pricing model. The cost is recognized over the period during which an employee is required to provide service in exchange for the award. For performance-based grants, Farmer Mac recognizes the grant-date fair value over the vesting period as long as it remains probable that the performance conditions will be met. If the service or performance conditions are not met, Farmer Mac reverses previously recognized compensation expense upon forfeiture.

Farmer Mac recognized $6.8 million, $4.6 million, and $4.3 million of compensation expense related to SARs and non-vested restricted stock unit awards for 2023, 2022, and 2021, respectively.

(l) 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 years ended December 31, 2023, 2022, and 2021.

Table 2.2

	Available-for-Sale Securities	Held-to-Maturity Securities	Cash Flow Hedges	Total
	(in thousands)			
Balance as of January 1, 2021	$ (13,937)	$ 22,829	$ (22,815)	(13,923)
Other comprehensive income before reclassifications	9,114	—	11,602	20,716
Amounts reclassified from AOCI	(2,109)	(6,676)	5,845	(2,940)
Net comprehensive income/(loss)	7,005	(6,676)	17,447	17,776
Balance as of December 31, 2021	$ (6,932)	$ 16,153	$ (5,368)	$ 3,853
Other comprehensive (loss)/income before reclassifications	(108,624)	—	54,688	(53,936)
Amounts reclassified from AOCI	(5)	204	(959)	(760)
Net comprehensive (loss)/income	(108,629)	204	53,729	(54,696)
Balance as of December 31, 2022	$ (115,561)	$ 16,357	$ 48,361	$ (50,843)
Other comprehensive income/(loss) before reclassifications	47,114	(25,199)	4,973	26,888
Amounts reclassified from AOCI	—	118	(16,308)	(16,190)
Net comprehensive income/(loss)	47,114	(25,081)	(11,335)	10,698
Balance as of December 31, 2023	$ (68,447)	$ (8,724)	$ 37,026	$ (40,145)

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 years ended December 31, 2023, 2022, and 2021:

Table 2.3

	For the Years Ended December 31,								
	2023			2022			2021		
	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax
					(in thousands)				
Other comprehensive income:									
Available-for-sale-securities:									
Unrealized holding gains/(losses) on available-for-sale securities	$ 59,640	$ 12,526	$ 47,114	$ (137,500)	$ (28,876)	$ (108,624)	$ 11,537	$ 2,423	$ 9,114
Less reclassification adjustments included in:									
Net interest income(1)	—	—	—	—	—	—	(2,333)	(490)	(1,843)
Gains on sale of available-for-sale investment securities(2)	—	—	—	—	—	—	(253)	(53)	(200)
Other income(2)	—	—	—	(6)	(1)	(5)	(84)	(18)	(66)
Total	$ 59,640	$ 12,526	$ 47,114	$ (137,506)	$ (28,877)	$ (108,629)	$ 8,867	$ 1,862	$ 7,005
Held-to-maturity securities:									
Change in fair value(3)	$ (31,898)	$ (6,699)	$ (25,199)	$ —	$ —	$ —	$ —	$ —	$ —
Less reclassification adjustments included in:									
Net interest income(4)	148	30	118	259	55	204	(8,451)	(1,775)	(6,676)
Total	$ (31,750)	$ (6,669)	$ (25,081)	$ 259	$ 55	$ 204	$ (8,451)	$ (1,775)	$ (6,676)
Cash flow hedges									
Unrealized gains on cash flow hedges	$ 6,295	$ 1,322	$ 4,973	$ 69,225	$ 14,537	$ 54,688	$ 14,685	$ 3,083	$ 11,602
Less reclassification adjustments included in:									
Net interest income(5)	(20,643)	(4,335)	(16,308)	(1,213)	(254)	(959)	7,399	1,554	5,845
Total	$ (14,348)	$ (3,013)	$ (11,335)	$ 68,012	$ 14,283	$ 53,729	$ 22,084	$ 4,637	$ 17,447
Other comprehensive income/(loss)	$ 13,542	$ 2,844	$ 10,698	$ (69,235)	$ (14,539)	$ (54,696)	$ 22,500	$ 4,724	$ 17,776

(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) Represents the accumulated unrealized loss on the AgVantage Securities transferred from available-for-sale to held-to-maturity.

(4) 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.

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

(m) Guarantees

Farmer Mac accounts for its LTSPCs as guarantees. LTSPCs and securitization trusts where Farmer Mac is not the primary beneficiary result in the creation of guarantee obligations for Farmer Mac. Farmer Mac records, at the inception of a guarantee or LTSPC, a liability for the fair value of its obligation to stand ready to perform under the terms of each guarantee or LTSPC and an asset that is equal to the fair value of the fees that will be received over the life of each guarantee or LTSPC. The fair values of the guarantee obligation and asset at inception 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. Because the cash flows of these instruments may be interest rate path dependent, these values and projected discount rates are derived using a Monte Carlo simulation model. The guarantee obligation and corresponding asset are later amortized into guarantee and commitment fee income in relation to the decrease in the unpaid principal balance on the underlying Agricultural Finance real estate mortgage loans and Rural Infrastructure Finance loans.

See Note 2(h) for Farmer Mac's policy for estimating probable losses for LTSPCs.

(n) Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, Farmer Mac uses various valuation approaches, including market and income based approaches. When available, the fair value of Farmer Mac's financial instruments is based on quoted market prices, valuation techniques that use observable market-based inputs, or unobservable inputs that are corroborated by market data. Pricing information obtained from third parties is internally validated for reasonableness before use in the consolidated financial statements.

Fair value measurements related to financial instruments that are reported at fair value in the consolidated financial statements each period are referred to as recurring fair value measurements. Fair value measurements related to financial instruments that are not reported at fair value each period but are subject to fair value adjustments in certain circumstances are referred to as nonrecurring fair value measurements.

Fair Value Classification and Transfers

The fair value hierarchy ranks the quality and reliability of the information used to determine fair values. The hierarchy gives highest priority to unadjusted quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The following three levels are used to classify fair value measurements:

Level 1	Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
Level 2	Quoted prices in markets that are not active or financial instruments for which all significant inputs are observable, either directly or indirectly.
Level 3	Prices or valuations that require unobservable inputs that are significant to the fair value measurement.

Farmer Mac performs a detailed analysis of the assets and liabilities carried at fair value to determine the appropriate level based on the transparency of the inputs used in the valuation techniques. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an instrument's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. Farmer Mac's assessment of the significance of a particular input to the fair value measurement of an instrument requires judgment and consideration of factors specific to the instrument. While Farmer Mac believes its valuation methods are appropriate and consistent with those of other market participants, using different methodologies or assumptions to determine fair value could result in a materially different estimate of fair value for some financial instruments.

The following is a description of the fair value techniques used for instruments measured at fair value as well as the general classification of those instruments under the valuation hierarchy described above.

Recurring Fair Value Measurements and Classification

Available-for-Sale and Trading Investment Securities

The fair value of investments in U.S. Treasuries is based on unadjusted quoted prices for identical securities in active markets. Farmer Mac classifies these fair value measurements as "Level 1."

For a significant portion of Farmer Mac's investment portfolio, including most asset-backed securities, senior agency debt securities, and Government/GSE guaranteed mortgage-backed securities, fair value is primarily determined using a reputable and nationally recognized third-party pricing service. The prices obtained are non-binding and generally representative of recent market trades on similar securities. The fair value of certain asset-backed and Government guaranteed mortgage-backed securities are estimated based on quotations from brokers or dealers. Farmer Mac corroborates its primary valuation source by obtaining a secondary price from another independent third-party pricing service. Farmer Mac classifies these fair value measurements as "Level 2."

For certain investment securities that are thinly traded or not quoted, Farmer Mac estimates fair value using internally-developed models that employ a discounted cash flow approach. Farmer Mac maximizes the use of observable market data, including prices of financial instruments with similar maturities and characteristics, interest rate yield curves, measures of volatility, and prepayment rates. Farmer Mac generally considers a market to be thinly traded or not quoted if the following conditions exist: (1) there are few transactions for the financial instruments; (2) the prices in the market are not current; (3) the price quotes vary significantly either over time or among independent pricing services or dealers; or (4) there is limited availability of public market information. Farmer Mac classifies these fair value measurements as "Level 3."

Available-for-Sale and Trading Farmer Mac Guaranteed Securities and USDA Securities

Farmer Mac estimates the fair value of its Farmer Mac Guaranteed Securities and USDA Securities by discounting the projected cash flows of these instruments at discount rates commensurate with the risks involved. 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. Farmer Mac classifies these fair value measurements as Level 3 because there is limited market activity and therefore require the use of significant unobservable inputs in estimating the fair value.

Financial Derivatives

The fair value of exchange-traded U.S. Treasury futures is based on unadjusted quoted prices for identical financial instruments. Farmer Mac classifies these fair value measurements as Level 1.

Farmer Mac's derivative portfolio consists primarily of interest rate swaps and forward sales contracts on the debt of other GSEs. Farmer Mac estimates the fair value of these financial instruments primarily based upon a third-party accounting and valuation system. The third-party accounting and valuation system determines the fair value of the interest rate swaps using the market standard methodology of netting the discounted future fixed cash payments (or receipts) and the discounted expected variable cash receipts (or payments). Farmer Mac also incorporates credit valuation adjustments to appropriately reflect both its own nonperformance risk and the respective counterparty's nonperformance risk in the fair value measurements of its derivatives. The credit valuation adjustments associated with Farmer Mac's derivatives utilize model-derived credit spreads, which are Level 3 inputs. As of December 31, 2023, Farmer Mac has assessed the significance of the impact of the credit valuation adjustments on the overall valuation of these interest rate contracts and has determined that the credit valuation adjustments were not significant to the overall valuation of its derivative portfolio. As a result, Farmer Mac classifies these derivative instruments as Level 2 due to the observable nature of the significant inputs utilized.

Farmer Mac also internally values its derivative portfolio using a discounted cash flow valuation technique and obtains counterparty valuations to corroborate management's estimate of fair value, which is based upon a third-party accounting and valuation system.

See Note 13 for more information about fair value measurement.

(o) Consolidation of Variable Interest Entities

Farmer Mac has interests in various entities that are considered to be VIEs. These interests include investments in securities issued by VIEs, such as Farmer Mac agricultural mortgage-backed securities created pursuant to Farmer Mac's securitization transactions and mortgage- and asset-backed trusts that Farmer Mac did not create. The consolidation model uses a qualitative evaluation that requires consolidation of an entity when the reporting enterprise both: (1) has the power to direct matters which significantly impact the activities and success of the entity, and (2) has exposure to benefits and/or losses that could potentially be significant to the entity. The reporting enterprise that meets both these conditions is deemed the primary beneficiary of the VIE. Upon consolidation of a VIE, Farmer Mac accounts for the incremental assets and liabilities initially at their carrying amounts.

The VIEs in which Farmer Mac has a variable interest are limited to securitization trusts. Given the interests Farmer Mac holds, the major factor in determining if Farmer Mac is the primary beneficiary is whether Farmer Mac has the power to direct the activities of the trust that potentially have the most significant impact on the economic performance of the trust. Generally, the ability to make decisions regarding default mitigation is evidence of that power. Farmer Mac determined that it is the primary beneficiary for the securitization trusts related to most Agricultural Finance securitization transactions because of its rights as guarantor under both programs to control the default mitigation activities of the trusts. For certain securitization trusts created when loans subject to LTSPCs were converted to Farmer Mac Guaranteed Securities, Farmer Mac determined that it was not the primary beneficiary since the power to make decisions regarding default mitigation was shared among unrelated parties. For these trusts, the shared power provisions are substantive with respect to decision-making power and relate to the same activity (i.e., default mitigation). For similar securitization transactions where the power to make decisions regarding default mitigation was shared with a related party, Farmer Mac determined that it was the primary beneficiary because the applicable accounting guidance does not permit parties within a related party group to conclude that the power is shared. In the event that a related party status changes, consolidation or deconsolidation of these securitization trusts could occur.

For those trusts that Farmer Mac is the primary beneficiary, the assets and liabilities are presented on the consolidated balance sheets as "Loans held for investment in consolidated trusts, at amortized cost" and "Debt securities of consolidated trusts held by third parties," respectively. These assets can only be used to satisfy the obligations of the related trust.

For those trusts in which Farmer Mac has a variable interest but is not the primary beneficiary, Farmer Mac's interests are presented as either "Farmer Mac Guaranteed Securities," "USDA Securities," or "Investment securities" on the consolidated balance sheets. Farmer Mac's involvement in VIEs classified as Farmer Mac Guaranteed Securities or USDA Securities include securitization trusts under the Agricultural Finance line of business. In the case of USDA guaranteed trusts, Farmer Mac is not determined to be the primary beneficiary because it does not have the decision-making power over default mitigation activities. Based on the USDA's program authority over the servicing and default mitigation activities of the USDA guaranteed portions of loans, Farmer Mac believes that the USDA has the power to direct the activities that most significantly impact the trust's economic performance. Farmer Mac does not have exposure to losses that could be significant to the trust and there are no triggers that would result in Farmer Mac superseding the USDA's authority with regard to directing the activities of the trust. For VIEs classified as investment securities, which include auction-rate certificates, asset-backed securities, and government-sponsored enterprise ("GSE") guaranteed mortgage-backed securities, Farmer Mac is determined not to be the primary beneficiary because of the lack of voting rights or other powers to direct the activities of the trust.

In 2021, Farmer Mac executed a structured securitization of a $299.4 million pool of Farm & Ranch loans. For more information about this securitization, see Note 2(e) - Securitization. The securitization trust used to effect this transaction was a variable interest entity that Farmer Mac has not consolidated. Farmer Mac determined that it was not the primary beneficiary of the securitization trust because the subordinate class majority holder has the unilateral right to remove Farmer Mac as Master Servicer with or without cause.

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

Table 2.4

	Consolidation of Variable Interest Entities		
	As of December 31, 2023		
	Agricultural Finance	Treasury	Total
		(in thousands)	
On-Balance Sheet:			
Consolidated VIEs:			
Loans held for investment in consolidated trusts, at amortized cost	$ 1,432,261	$ —	$ 1,432,261
Debt securities of consolidated trusts held by third parties (1)(2)	1,351,069	—	1,351,069
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Carrying value	46,343	—	46,343
Maximum exposure to loss (3)	45,952	—	45,952
Investment securities:			
Carrying value (4)	—	3,676,555	3,676,555
Maximum exposure to loss (3) (4)	—	3,862,006	3,862,006
Off-Balance Sheet:			
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Maximum exposure to loss (3) (5)	452,602	—	452,602

(1) Includes borrower remittances of $6.0 million. The borrower remittances had not been passed through to third-party investors as of December 31, 2023.

(2) Includes $87.1 million in unamortized discount related to structured securitization transactions.

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

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

(5) 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, 2022		
	Agricultural Finance	Treasury	Total
		(in thousands)	
On-Balance Sheet:			
Consolidated VIEs:			
Loans held for investment in consolidated trusts, at amortized cost	$ 1,211,576	$ —	$ 1,211,576
Debt securities of consolidated trusts held by third parties [(1)(2)]	1,181,948	—	1,181,948
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Carrying value	28,466	—	28,466
Maximum exposure to loss [(3)]	31,208	—	31,208
Investment securities:			
Carrying value [(4)]	—	3,138,619	3,138,619
Maximum exposure to loss [(3) (4)]	—	3,341,427	3,341,427
Off-Balance Sheet:			
Unconsolidated VIEs:			
Farmer Mac Guaranteed Securities:			
Maximum exposure to loss [(3) (5)]	500,953	—	500,953

(1) Includes borrower remittances of $8.1 million. The borrower remittances had not been passed through to third-party investors as of December 31, 2022.
(2) Includes $37.7 million in unamortized discount related to a structured securitization transaction.
(3) Farmer Mac uses unpaid principal balance and outstanding face amount of investment securities to represent maximum exposure to loss.
(4) Includes auction-rate certificates, government-sponsored enterprise ("GSE")-guaranteed mortgage-backed securities, and other mission related investments.
(5) 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.

(p) Custodial Deposit Liability

Farmer Mac, as a servicer, collects cash from borrowers in advance of the borrower's contractual payment date. Farmer Mac's policy is to include the cash in the consolidated balance sheet as "Cash and cash equivalents" with an offsetting liability to "Accounts payable and accrued expenses" until the payment is contractually due, at which point the payment is applied to the loan. The net change in the amount of this custodial cash will also be disclosed in the consolidated statements of cash flows as "Custodial deposit liability."

(q) Business Segments

Farmer Mac's Chief Operating Decision Maker ("CODM") – its President and Chief Executive Officer – reviews financial information of seven operating segments, which are reportable segments. The CODM reviews the financial information of the seven segments to make decisions about allocating resources and to assess the financial performance of those segments. The seven reportable segments are: Farm & Ranch, Corporate AgFinance, Rural Utilities, Renewable Energy, Funding, Investments, and Corporate. The purpose of the alignment of the company's segments is for the CODM to review and analyze financial performance according to the type of customer and market rather than according to the type of product offerings. The financial information for the Funding and Investments segments allow the CODM to review the results of the company's Treasury activities. All operating expenses are managed at the enterprise level and are reported within the Corporate segment rather than allocated to any of the other segments.

The operations and financial results of the Farm & Ranch and Corporate AgFinance segments are within our Agricultural Finance line of business. The Farm & Ranch segment includes the financial results of the USDA Securities portfolio and Farm & Ranch loans. The Corporate AgFinance segment includes loans and AgVantage securities to larger and more complex farming operations, agribusinesses focused on food and fiber processing, and other supply chain production.

The Rural Utilities and Renewable Energy segments are within our Rural Infrastructure Finance line of business. The Rural Utilities segment includes loans to rural electric generation and transmission cooperatives, distribution cooperatives, and telecommunications providers, as well as AgVantage securities secured by those types of loans. The Renewable Energy segment includes loans to rural electric solar and wind energy projects.

The Funding segment includes the financial results of the company's debt issuance, hedging, asset/liability management, and capital allocation strategies. The company allocates interest expense to each of the other segments (except Corporate) using a funds transfer pricing process. That process also allocates the benefits and costs from the company's funding and hedging strategies to the Funding segment.

The Investments segment includes the financial results of the company's investment portfolio, which is held for liquidity purposes. Interest expense is allocated to the Investments segment using the same funds transfer pricing process that is used to allocate interest expense to the other segments.

The Corporate segment includes all of the company's operating expenses, including compensation, general and administrative expenses, and regulatory fees. The Corporate segment also includes items of other income and preferred stock dividend expense.

Farmer Mac uses the non-GAAP financial measure "core earnings" to measure corporate economic performance and develop financial plans because, in management's view, core earnings is a useful alternative measure in understanding Farmer Mac's economic performance, transaction economics, and business trends. The main difference between core earnings and net income attributable to common stockholders is that core earnings excludes the effects of fair value fluctuations, which are not expected to have a cumulative net impact on financial condition or results of operations reported in accordance with generally accepted accounting principles if the related financial instruments are held to maturity, as is generally expected. Core earnings also differs from net income attributable to common stockholders by excluding specified infrequent or unusual transactions that Farmer Mac believes are not indicative of future operating results and that may not reflect the trends and economic financial performance of Farmer Mac's core business. This corporate economic performance measure may not be comparable to similarly labeled measures disclosed by other companies.

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

(r) 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	During the second quarter 2023, Farmer Mac adopted optional expedients including those relating to qualifying hedging relationships and contract modification relief and, since September 30, 2023, has no further exposure to LIBOR. To date, these elections did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows. Farmer Mac does not expect to elect further expedients through the ending date of December 31, 2024.
ASU 2022-06, Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848	The amendments in this Update deferred the sunset date in Topic 848 from December 31, 2022 to December 31, 2024.	December 21, 2022	Farmer Mac does not expect to elect further expedients through the ending date of December 31, 2024.
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 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 write offs for financing receivables and net investment in leases by year of origination in the vintage disclosures.	January 1, 2023	The adoption of this Update did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2022-01, Fair Value Hedging - Portfolio Layer Method	The Update introduces the portfolio layer method, which expands the current single-layer method to allow multiple hedged layers of a single closed portfolio under the method (previously named, last-of-layer method). It also expands the scope of the portfolio layer method to include non-prepayable assets, specifies eligible hedging instruments in a single-layer hedge, provides additional guidance on the accounting for and disclosure of hedge basis adjustments under the portfolio layer method, specifies how hedge basis adjustments should be considered when determining credit losses for the assets included in the closed portfolio, and provides that an entity may reclassify HTM debt securities identified within 30 days of the date of adoption to AFS if the entity applies portfolio layer method hedging to those debt securities.	January 1, 2023	Farmer Mac adopted this guidance as of January 1, 2023. Farmer Mac does not currently hedge interest rate risk for single closed portfolios of financial assets, so adoption of this guidance had no effect on Farmer Mac's financial condition, results of operations, cash flows, or disclosures given current strategies.

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

Standard	Description	Effect on Consolidated Financial Statements
ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures	The amendments in this Update require disclosures, on an annual and interim basis, of significant segment expenses that are regularly provided to the chief operating decision maker ("CODM"), as well as the aggregate amount of other segment items included in the reported measure of segment profit or loss. This Update also requires that a public entity disclose the title and position of the CODM and an explanation of how the CODM uses the reported measure(s) of segment profit or loss. Public entities will be required to provide all annual disclosures currently required by Topic 280 in interim periods, and entities with a single reportable segment are required to provide all the disclosures required by the amendments in this Update and existing disclosures in Topic 280. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The amendments should be applied retrospectively. Early adoption is permitted.	Farmer Mac is still assessing the effect on our annual consolidated financial statement disclosures, however, adoption will not have a material impact on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures	The Update provides guidance on improvements to annual income tax disclosures by requiring (1) consistent categories and greater disaggregation of information in the rate reconciliation and (2) income taxes paid disaggregated by jurisdiction. Additionally, public entities must provide a separate disclosure for any reconciling item that meets a quantitative threshold. ASU 2023-09 is effective for annual periods beginning after December 15, 2024. The amendments should be applied on a prospective basis. Early adoption is permitted.	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 impact on Farmer Mac's financial position, results of operations, or cash flows.

(s) Reclassifications

Certain reclassifications of prior period information were made to conform to the current period presentation. The reclassifications of prior period information were not material to the consolidated financial statements.

3. RELATED PARTY TRANSACTIONS

Farmer Mac considers an entity to be a related party if (1) the entity holds at least 5% of a class of Farmer Mac voting common stock or (2) the institution has an affiliation with a Farmer Mac director and conducts material business with Farmer Mac. As provided by Farmer Mac's statutory charter, only banks, insurance companies, and other financial institutions or similar entities may hold Farmer Mac's Class A voting common stock and only institutions of the Farm Credit System may hold Farmer Mac's Class B voting common stock. Farmer Mac's statutory charter also provides that Class A stockholders elect 5 members of Farmer Mac's 15-member board of directors and that Class B stockholders elect 5 members of the board of directors. Farmer Mac generally requires financial institutions to own a requisite amount of common stock, based on the size and type of institution, to participate in the Agricultural Finance line of business. As a result of these requirements, Farmer Mac conducts business with related parties in the normal course of Farmer Mac's business. All related party transactions were conducted with terms and conditions comparable to those available to any other participant in Farmer Mac's lines of business not related to Farmer Mac.

Zions Bancorporation, National Association:

Farmer Mac considers Zions Bancorporation, National Association and its affiliates ("Zions") a related party because Zions owns approximately 31.2% of Farmer Mac's Class A voting common stock. The following transactions occurred between Farmer Mac and Zions during 2023, 2022, and 2021:

Table 3.1

	For the Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Unpaid Principal Balance:			
Purchases:			
Loans	$ 160,079	$ 274,517	$ 214,319
USDA Securities	231	4,171	9,565
Sales of Farmer Mac Guaranteed Securities	—	99,643	—

The purchases of loans from Zions under the Agricultural Finance line of business represented approximately 9.5%, 12.9%, and 8.0% of Agricultural Finance mortgage loan purchases for the years ended December 31, 2023, 2022, and 2021, respectively, and 6.9%, 9.6% and 5.6%, respectively, of total Agricultural Finance mortgage loan business volume (excluding AgVantage and USDA Securities). The purchases of USDA Securities from Zions represented approximately 0.1%, 1.5%, and 2.1% of total purchases of USDA Securities for the years ended December 31, 2023, 2022, and 2021, respectively. Outstanding Agricultural Finance mortgage loans purchased and USDA Securities purchased from Zions represented 3.1% and 3.5%, respectively, of Farmer Mac's outstanding business volume (excluding loans serviced for others) as of December 31, 2023 and 2022.

Zions retained servicing fees of $11.2 million, $10.4 million, and $11.0 million in 2023, 2022, and 2021, respectively, for its work as a Farmer Mac servicer.

National Rural Utilities Cooperative Financial Corporation:

Farmer Mac considers the National Rural Utilities Cooperative Financial Corporation ("CFC") a related party because CFC owns approximately 7.91% of Farmer Mac's Class A voting common stock and because a member of Farmer Mac's board of directors had an affiliation with CFC through June 2021. The following transactions occurred between Farmer Mac and CFC during 2023, 2022, and 2021:

Table 3.2

Farmer Mac Loan Purchases and Guarantees

	For the Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Unpaid Principal Balance:			
Loans	$ 298,254	$ 386,998	$ 127,117
LTSPCs	—	30,421	—
AgVantage Securities	1,450,000	670,000	1,450,000
Total purchases and guarantees	$ 1,748,254	$ 1,087,419	$ 1,577,117

The transactions with CFC represented 37.1% of Farmer Mac's loan purchase volume under the Rural Infrastructure Finance line of business for 2023, compared to 46.7% of Rural Infrastructure Finance loan purchase volume for 2022 and 36.9% for 2021. These transactions represented 33.8%, 13.4%, and 37.0% of AgVantage securities volume for 2023, 2022, and 2021, respectively, and represented 22.6%, 12.0%, and 18.4% of new business volume for 2023, 2022, and 2021, respectively. Of Farmer Mac's total outstanding business volume (excluding loans serviced for others) as of December 31, 2023 and 2022, Rural Utilities loans, loans under LTSPCs, and AgVantage securities issued by CFC represented 20.4% and 18.7%, respectively.

Farmer Mac had interest receivable of $27.0 million and $18.2 million as of December 31, 2023 and 2022, respectively, and earned interest income of $143.5 million, $79.4 million, and $50.0 million during 2023, 2022, and 2021, respectively, related to its AgVantage transactions with CFC.

As of both December 31, 2023 and 2022, Farmer Mac had $0.1 million of commitment fees receivable from CFC and earned commitment fees of $1.0 million, $1.1 million, and $1.2 million, respectively for 2023, 2022, and 2021.

CFC retained servicing fees of $3.7 million, $3.4 million, and $3.3 million in 2023, 2022, and 2021, respectively, for its work as a Farmer Mac central servicer.

CoBank:

Farmer Mac considers CoBank a related party because CoBank owns approximately 32.6% of Farmer Mac's Class B voting common stock.

Farmer Mac purchased $438.8 million, $376.0 million, and $207.5 million of loans and participations from CoBank, under the Rural Infrastructure Finance and Agricultural Finance lines of business in 2023, 2022, and 2021, respectively. Of Farmer Mac's total outstanding business volume as of December 31, 2023 and 2022, CoBank's loans, participations, and unfunded commitments represented 6.7% and 6.3%, respectively, of total outstanding volume (excluding loans serviced for others).

CoBank retained servicing fees of $3.6 million, $3.5 million, and $3.2 million in 2023, 2022, and 2021, respectively, for its work as a Farmer Mac central servicer.

AgFirst Farm Credit Bank:

Farmer Mac considers AgFirst Farm Credit Bank ("AgFirst") a related party because AgFirst owns approximately 16.8% of Farmer Mac's Class B voting common stock.

AgFirst entered into no Agricultural Finance LTSPC transactions in either 2023 or 2022, and entered into $11.0 million of Agricultural Finance LTSPC transactions in 2021. The aggregate balance of Agricultural Finance LTSPCs outstanding as of December 31, 2023 and 2022 was $447.3 million and $387.1 million, respectively. In 2023, 2022, and 2021, Farmer Mac received $1.4 million, $1.2 million, and $1.2 million, respectively, in commitment fees from AgFirst, and had $0.1 million of commitment fees receivable as of both December 31, 2023 and 2022.

AgFirst owns certain securities backed by rural housing loans. Farmer Mac guarantees the last ten percent of losses (based on the original principal balance at the time of pooling) from each loan in the pool backing those securities. As of December 31, 2023 and 2022, the outstanding balance of those securities owned by AgFirst was $1.8 million and $2.2 million, respectively. Farmer Mac received guarantee fees of $12,000, $15,000, and $19,000 in 2023, 2022, and 2021, respectively, on those securities.

Farm Credit Bank of Texas:

Farmer Mac considers Farm Credit Bank of Texas a related party because the bank owns approximately 7.7% of Farmer Mac's Class B voting common stock. Farmer Mac received from Farm Credit Bank of Texas commitment fees of $3.4 million, $2.9 million, and $1.9 million in 2023, 2022, and 2021, respectively. The aggregate amount of Agricultural Finance LTSPCs outstanding with Farm Credit Bank of Texas as of December 31, 2023 and 2022 was $923.9 million and $881.6 million, respectively. In each of 2023, 2022, and 2021, Farm Credit Bank of Texas retained $0.1 million in servicing fees for its work as a Farmer Mac central servicer.

4. INVESTMENT SECURITIES

The following tables set forth information about Farmer Mac's available-for-sale and held-to-maturity investment securities as of December 31, 2023 and 2022:

Table 4.1

	As of December 31, 2023						
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost[(1)]	Allowance for losses[(2)]	Unrealized Gains	Unrealized Losses	Fair Value
				(in thousands)			
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	$ 19,700	$ —	$ 19,700	$ (27)	$ —	$ (591)	$ 19,082
Floating rate Government/GSE guaranteed mortgage-backed securities	2,454,009	(1,138)	2,452,871	—	1,212	(29,649)	2,424,434
Fixed rate GSE guaranteed mortgage-backed securities	1,727,669	(46,788)	1,680,881	—	6,558	(117,824)	1,569,615
Floating rate U.S. Treasuries	50,000	(17)	49,983	—	—	(15)	49,968
Fixed rate U.S. Treasuries	869,585	(12,885)	856,700	—	2,074	(2,942)	855,832
Total available-for-sale	5,120,963	(60,828)	5,060,135	(27)	9,844	(151,021)	4,918,931
Held-to-maturity:							
Floating rate Government/GSE guaranteed mortgage-backed securities[(3)]	53,756	—	53,756	—	1,745	—	55,501
Total held-to-maturity	$ 53,756	$ —	$ 53,756	$ —	$ 1,745	$ —	$ 55,501

(1) Amounts presented exclude $15.9 million of accrued interest receivable on investment securities as of December 31, 2023.
(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 6.7% as of December 31, 2023.

	As of December 31, 2022						
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost[1]	Allowance for losses[2]	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)						
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	$ 19,700	$ —	$ 19,700	$ (33)	$ —	$ (640)	$ 19,027
Floating rate Government/GSE guaranteed mortgage-backed securities	2,433,696	(200)	2,433,496	—	1,954	(42,910)	2,392,540
Fixed rate GSE guaranteed mortgage-backed securities	1,207,416	(30,321)	1,177,095	—	2,128	(130,837)	1,048,386
Fixed rate U.S. Treasuries	1,145,915	(6,780)	1,139,135	—	621	(20,145)	1,119,611
Total available-for-sale	4,806,727	(37,301)	4,769,426	(33)	4,703	(194,532)	4,579,564
Held-to-maturity:							
Floating rate Government/GSE guaranteed mortgage-backed securities[3]	45,032	—	45,032	—	2,433	—	47,465
Total held-to-maturity	$ 45,032	$ —	$ 45,032	$ —	$ 2,433	$ —	$ 47,465

(1) Amounts presented exclude $10.6 million of accrued interest receivable on investment securities as of December 31, 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 4.5% as of December 31, 2022.

Farmer Mac did not sell any securities from its available-for-sale investment portfolio during the years ended December 31, 2023 and 2022. During the year ended December 31, 2021, Farmer Mac received proceeds of $257.5 million, from the sale of securities from its available-for-sale investment portfolio, resulting in gains of $0.3 million.

As of December 31, 2023 and 2022, unrealized losses on available-for-sale investment securities were as follows:

Table 4.2

	As of December 31, 2023			
	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	$ —	$ —	$ 19,082	$ (591)
Floating rate Government/GSE guaranteed mortgage-backed securities	568,759	(4,395)	1,449,122	(25,254)
Fixed rate Government/GSE guaranteed mortgage-backed securities	384,305	(4,262)	905,759	(113,562)
Floating rate U.S. Treasuries	49,969	(15)	—	—
Fixed rate U.S. Treasuries	140,435	(606)	237,192	(2,336)
Total	$ 1,143,468	$ (9,278)	$ 2,611,155	$ (141,743)
Number of securities in loss position		91		162

	As of December 31, 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	$ —	$ —	$ 19,027	$ (640)
Floating rate Government/GSE guaranteed mortgage-backed securities	1,884,146	(36,976)	193,964	(5,934)
Fixed rate Government/GSE guaranteed mortgage-backed securities	621,215	(56,434)	336,782	(74,403)
Fixed rate U.S. Treasuries	314,524	(2,842)	704,780	(17,303)
Total	$ 2,819,885	$ (96,252)	$ 1,254,553	$ (98,280)
Number of securities in loss position		174		51

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 December 31, 2023 and December 31, 2022, 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 December 31, 2023 and 2022, all of the investment securities in an unrealized loss position either were backed by the full faith and credit of the U.S. government, a U.S. government sponsored enterprise, or had credit ratings of at least "AA+."

Securities in unrealized loss positions for 12 months or longer have a fair value as of December 31, 2023 that is, on average, approximately 94.9% 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, changes in credit spread, and changes in levels of interest rates.

The amortized cost, fair value, and weighted-average yield of available-for-sale investment securities by remaining contractual maturity as of December 31, 2023 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 4.3

	As of December 31, 2023		
	Available-for-Sale Securities		
	Amortized Cost	Fair Value	Weighted-Average Yield
	(dollars in thousands)		
Due within one year	$ 567,615	$ 565,976	1.75%
Due after one year through five years	1,191,428	1,173,923	4.25%
Due after five years through ten years	2,489,410	2,386,411	4.39%
Due after ten years	811,682	792,621	5.72%
Total	$ 5,060,135	$ 4,918,931	4.27%

5. 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 December 31, 2023 and 2022:

Table 5.1

	As of December 31, 2023						
	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	$ 4,206,324	$ (29,622)	$ 4,176,702	$ (209)	$ 4,676	$ (39,451)	$ 4,141,718
Farmer Mac Guaranteed USDA Securities	36,543	33	36,576	—	107	(806)	35,877
Total Farmer Mac Guaranteed Securities	4,242,867	(29,589)	4,213,278	(209)	4,783	(40,257)	4,177,595
USDA Securities	2,331,093	23,078	2,354,171	—	417	(319,783)	2,034,805
Total held-to-maturity	$ 6,573,960	$ (6,511)	$ 6,567,449	$ (209)	$ 5,200	$ (360,040)	$ 6,212,400
Available-for-sale:							
AgVantage	$ 5,816,024	$ —	$ 5,816,024	$ (317)	$ 16,416	$ (309,411)	$ 5,522,712
Farmer Mac Guaranteed Securities[(3)]	—	9,409	9,409	—	358	—	9,767
Total available-for-sale	$ 5,816,024	$ 9,409	$ 5,825,433	$ (317)	$ 16,774	$ (309,411)	$ 5,532,479
Trading:							
USDA Securities[(4)]	$ 1,236	$ 64	$ 1,300	$ —	$ —	$ (59)	$ 1,241

(1) Amounts presented exclude $47.2 million, $67.4 million, and $42,000 of accrued interest receivable on available-for-sale, held-to-maturity, and trading securities, respectively, as of December 31, 2023.
(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 $238.4 million.
(4) The trading USDA securities had a weighted average yield of 5.46% as of December 31, 2023.

	As of December 31, 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	$ 1,000,689	$ (95)	$ 1,000,594	$ (59)	$ 353	$ (54,098)	$ 946,790
Farmer Mac Guaranteed USDA Securities	20,586	33	20,619	—	2	(856)	19,765
Total Farmer Mac Guaranteed Securities	1,021,275	(62)	1,021,213	(59)	355	(54,954)	966,555
USDA Securities	2,384,946	24,888	2,409,834	—	668	(312,824)	2,097,678
Total held-to-maturity	$ 3,406,221	$ 24,826	$ 3,431,047	$ (59)	$ 1,023	$ (367,778)	$ 3,064,233
Available-for-sale:							
AgVantage	$ 8,008,067	$ 806	$ 8,008,873	$ (546)	$ 2,061	$ (411,009)	$ 7,599,379
Farmer Mac Guaranteed Securities[(3)]	—	10,622	10,622	—	—	(2,775)	7,847
Total available-for-sale	$ 8,008,067	$ 11,428	$ 8,019,495	$ (546)	$ 2,061	$ (413,784)	$ 7,607,226
Trading:							
USDA Securities[(4)]	$ 1,770	$ 80	$ 1,850	$ —	$ —	$ (83)	$ 1,767

(1) Amounts presented exclude $51.5 million, $44.4 million, and $47,000 of accrued interest receivable on available-for-sale, held-to-maturity, and trading securities, respectively, as of December 31, 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 $7.8 million of an interest-only security with a notional amount of $250.1 million.
(4) The trading USDA securities had a weighted average yield of 4.84% as of December 31, 2022.

On July 1, 2023, Farmer Mac transferred $2.7 billion of AgVantage Securities from available-for-sale to held-to-maturity to reflect Farmer Mac's positive intent and ability to hold these securities until maturity or payoff. Farmer Mac transferred these securities at fair value as of the date of the transfer, which included a cost basis adjustment of unrealized losses of $31.9 million. The accumulated unrealized losses were retained in accumulated other comprehensive income in the amount of $31.9 million. Both the cost basis adjustment and accumulated unrealized depreciation will be amortized as an adjustment to the yield on the held-to-maturity AgVantage Securities over the remaining term of the transferred securities.

As of December 31, 2023 and 2022, unrealized losses on held-to-maturity and available-for-sale on-balance sheet Farmer Mac Guaranteed Securities and USDA Securities were as follows:

Table 5.2

	As of December 31, 2023			
	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	$ 2,070,770	$ (6,705)	$ 725,347	$ (32,746)
Farmer Mac Guaranteed USDA Securities	—	—	8,393	(806)
USDA Securities	—	—	2,023,801	(319,783)
Total held-to-maturity	$ 2,070,770	$ (6,705)	$ 2,757,541	$ (353,335)
Available-for-sale:				
AgVantage	$ 508,182	$ (5,716)	$ 4,043,431	$ (303,695)
Farmer Mac Guaranteed Securities	—	—	—	—
Total available-for-sale	$ 508,182	$ (5,716)	$ 4,043,431	$ (303,695)

	As of December 31, 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	
	(in thousands)							
Held-to-maturity:								
AgVantage	$	548,634	$	(11,455)	$	382,358	$	(42,643)
Farmer Mac Guaranteed USDA Securities		19,790		(856)		—		—
USDA Securities		2,086,108		(312,824)		—		—
Total held-to-maturity	$	2,654,532	$	(325,135)	$	382,358	$	(42,643)
Available-for-sale:								
AgVantage	$	4,642,096	$	(267,886)	$	1,548,551	$	(143,123)
Farmer Mac Guaranteed Securities		7,847		(2,775)		—		—
Total available-for-sale	$	4,649,943	$	(270,661)	$	1,548,551	$	(143,123)

The unrealized losses presented above are principally due to changes in interest rates from the date of acquisition to December 31, 2023 and 2022, as applicable.

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 68 and 95 available-for-sale securities as of December 31, 2023 and 2022, respectively. There were 53 and 37 held-to-maturity AgVantage securities with an unrealized loss as of December 31, 2023 and 2022, respectively. As of December 31, 2023 and 2022, 62 and 13 available-for-sale AgVantage securities, respectively, had been in a loss position for more than 12 months. As of December 31, 2023 and 2022, there were 22 and 4 held-to-maturity AgVantage securities, respectively, in a loss position for more than 12 months.

During the three years ended December 31, 2023, 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 December 31, 2023 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 5.3

	As of December 31, 2023		
	Available-for-Sale Securities		
	Amortized Cost[(1)]	Fair Value	Weighted-Average Yield
		(dollars in thousands)	
Due within one year	$ 643,100	$ 636,408	3.31 %
Due after one year through five years	2,801,674	2,706,830	3.54 %
Due after five years through ten years	1,425,000	1,343,146	3.75 %
Due after ten years	955,659	846,095	3.55 %
Total	$ 5,825,433	$ 5,532,479	3.56 %

(1) Amounts presented exclude $47.2 million of accrued interest receivable.

	As of December 31, 2023		
	Held-to-Maturity Securities		
	Amortized Cost[(1)]	Fair Value	Weighted-Average Yield
		(dollars in thousands)	
Due within one year	$ 1,862,524	$ 1,860,072	5.69 %
Due after one year through five years	1,755,763	1,716,466	4.62 %
Due after five years through ten years	279,166	244,568	3.57 %
Due after ten years	2,669,996	2,391,294	4.27 %
Total	$ 6,567,449	$ 6,212,400	4.76 %

(1) Amounts presented exclude $67.4 million of accrued interest receivable.

6. 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. Certain financial derivatives are designated as fair value hedges of fixed rate assets, classified as available-for-sale, to protect against fair value changes in the assets related to changes in a benchmark interest rate (e.g., SOFR). Certain other financial derivatives are designated as cash flow hedges to mitigate the volatility of future interest rate payments on floating rate debt. Certain financial derivatives are not designated in hedge accounting relationships.

Farmer Mac manages the interest rate risk related to loans it has committed to acquire, but has not yet permanently funded, primarily through the use of futures contracts involving U.S. Treasury securities. Farmer Mac aims to achieve a duration-matched hedge ratio between the hedged item and the hedge instrument. Gains or losses generated by these hedge transactions are expected to offset changes in funding costs. All financial derivatives are recorded on the balance sheet at fair value as a freestanding asset or liability.

The following tables summarize information related to Farmer Mac's financial derivatives on a gross basis without giving consideration to master netting arrangements. The table below includes accrued interest on cleared swaps, but excludes $16.4 million and $6.1 million of accrued interest receivable and $6.5 million and $3.6 million of accrued interest payable on uncleared swaps as of December 31, 2023 and 2022, respectively. The aforementioned accrued interest on uncleared swaps is included within Accrued Interest Receivable and Accrued Interest Payable on the consolidated balance sheets.

Table 6.1

	As of December 31, 2023						
		Fair Value					
	Notional Amount	Asset	(Liability)	Weighted-Average Pay Rate	Weighted-Average Receive Rate	Weighted-Average Forward Price	Weighted-Average Remaining Term (in years)
	(dollars in thousands)						
Fair value hedges:							
Interest rate swaps:							
Receive fixed non-callable	$ 9,776,685	$ 2,350	$ (20,390)	5.57%	2.94%		1.78
Pay fixed non-callable	9,174,253	7,767	(1,081)	2.50%	5.47%		9.57
Receive fixed callable	3,879,827	7,374	(95,984)	5.40%	3.40%		2.48
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	558,000	20,234	(43)	1.94%	5.82%		4.30
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	160,623	676	(29)	2.92%	5.64%		4.34
Receive fixed non-callable	1,358,396	263	(3)	5.44%	4.87%		0.64
Basis swaps	850,384	39	(746)	5.52%	5.48%		3.83
Treasury futures	21,300	11	(91)			112.51	
Netting adjustments[1]		(1,236)	1,236				
Total financial derivatives	$ 25,779,468	$ 37,478	$ (117,131)				

(1) Amounts represent the application of the netting requirements that allow Farmer Mac to settle positive and negative positions, including accrued interest, held or placed with the same clearing agent.

	As of December 31, 2022						
		Fair Value					
	Notional Amount	Asset	(Liability)	Weighted-Average Pay Rate	Weighted-Average Receive Rate	Weighted-Average Forward Price	Weighted-Average Remaining Term (in years)
	(dollars in thousands)						
Fair value hedges:							
Interest rate swaps:							
Receive fixed non-callable	$ 10,033,750	$ 19	$ (4,686)	4.31%	2.03%		1.64
Pay fixed non-callable	8,149,871	13,689	(366)	2.23%	4.33%		10.76
Receive fixed callable	2,764,577	461	(174,757)	4.21%	1.98%		3.18
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	588,000	27,275	—	1.93%	4.72%		5.05
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	187,479	1,065	(1)	3.05%	4.09%		4.52
Receive fixed non-callable	287,750	—	(130)	4.31%	1.16%		1.76
Basis swaps	1,860,384	112	(456)	4.40%	4.42%		2.46
Treasury futures	6,800	—	(142)			114.38	
Netting adjustments[(1)]		(5,212)	5,212				
Total financial derivatives	$ 23,878,611	$ 37,409	$ (175,326)				

(1) Amounts represent the application of the netting requirements that allow Farmer Mac to settle positive and negative positions, including accrued interest, held or placed with the same clearing agent.

As of December 31, 2023, Farmer Mac expects to reclassify $13.6 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 December 31, 2023. During the years ended December 31, 2023, 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 years ended December 31, 2023, 2022, and 2021:

Table 6.2

	For the Year Ended December 31, 2023					
	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	$ 287,144	$ 590,250	$ 514,894	$(1,064,741)	$ 2,882	$ 330,429
Income/(expense) related to interest settlements on fair value hedging relationships:						
Recognized on derivatives	35,377	146,027	64,648	(345,852)	—	(99,800)
Recognized on hedged items	33,488	183,396	63,133	(341,523)	—	(61,506)
Premium/discount amortization recognized on hedged items	1,860	—	—	(2,865)	—	(1,005)
Income/(expense) related to interest settlements on fair value hedging relationships	$ 70,725	$ 329,423	$ 127,781	$ (690,240)	$ —	$ (162,311)
(Losses)/gains on fair value hedging relationships:						
Recognized on derivatives	$ (19,445)	$ (91,151)	$ (23,528)	$ 279,803	$ —	$ 145,679
Recognized on hedged items	18,472	89,437	21,686	(280,668)	—	(151,073)
(Losses)/gains on fair value hedging relationships	$ (973)	$ (1,714)	$ (1,842)	$ (865)	$ —	$ (5,394)
Expense related to interest settlements on cash flow hedging relationships:						
Interest settlements reclassified from AOCI into net income on derivatives	$ —	$ —	$ —	$ 20,643	$ —	$ 20,643
Recognized on hedged items	—	—	—	(31,610)	—	(31,610)
Discount amortization recognized on hedged items	—	—	—	(55)	—	(55)
Expense recognized on cash flow hedges	$ —	$ —	$ —	$ (11,022)	$ —	$ (11,022)
Gains on financial derivatives not designated in hedging relationships:						
Gains on interest rate swaps	$ —	$ —	$ —	$ —	$ 4,395	$ 4,395
Interest expense on interest rate swaps	—	—	—	—	(4,845)	(4,845)
Treasury futures	—	—	—	—	3,332	3,332
Gains on financial derivatives not designated in hedge relationships	$ —	$ —	$ —	$ —	$ 2,882	$ 2,882

	For the Year Ended December 31, 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:	$ 82,659	$ 283,769	$ 350,420	$ (445,908)	$ 22,631	$ 293,571
Income/(expense) related to interest settlements on fair value hedging relationships:						
Recognized on derivatives	2,727	(19,486)	(501)	(61,941)	—	(79,201)
Recognized on hedged items	16,199	142,809	56,141	(132,406)	—	82,743
Discount amortization recognized on hedged items	(754)	—	—	(2,116)	—	(2,870)
Income/(expense) related to interest settlements on fair value hedging relationships	$ 18,172	$ 123,323	$ 55,640	$ (196,463)	$ —	$ 672
(Losses)/gains on fair value hedging relationships:						
Recognized on derivatives	$ 104,722	$ 553,530	$ 351,116	$ (489,445)	$ —	$ 519,923
Recognized on hedged items	(105,889)	(553,393)	(341,162)	486,323	—	(514,121)
(Losses)/gains on fair value hedging relationships	$ (1,167)	$ 137	$ 9,954	$ (3,122)	$ —	$ 5,802
Expense related to interest settlements on cash flow hedging relationships:						
Interest settlements reclassified from AOCI into net income on derivatives	$ —	$ —	$ —	$ 1,213	$ —	$ 1,213
Recognized on hedged items	—	—	—	(12,847)	—	(12,847)
Discount amortization recognized on hedged items	—	—	—	(57)	—	(57)
Expense recognized on cash flow hedges	$ —	$ —	$ —	$ (11,691)	$ —	$ (11,691)
Gains on financial derivatives not designated in hedge relationships:						
Gains on interest rate swaps	$ —	$ —	$ —	$ —	$ 13,012	$ 13,012
Interest expense on interest rate swaps	—	—	—	—	(7,619)	(7,619)
Treasury futures	—	—	—	—	17,238	17,238
Gains on financial derivatives not designated in hedge relationships	$ —	$ —	$ —	$ —	$ 22,631	$ 22,631

	For the Year Ended December 31, 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:	$ 18,660	$ 164,723	$ 242,582	$ (204,014)	$ 324	$ 222,275
Income/(expense) related to interest settlements on fair value hedging relationships:						
Recognized on derivatives	(1,002)	(85,302)	(27,167)	42,591	—	(70,880)
Recognized on hedged items	1,792	119,896	46,842	(51,484)	—	117,046
Discount amortization recognized on hedged items	—	—	—	(1,118)	—	(1,118)
Income/(expense) related to interest settlements on fair value hedging relationships	$ 790	$ 34,594	$ 19,675	$ (10,011)	$ —	$ 45,048
Gains/(losses) on fair value hedging relationships:						
Recognized on derivatives	$ 1,688	$ 178,252	$ 97,459	$ (98,332)	$ —	$ 179,067
Recognized on hedged items	(1,218)	(176,304)	(97,502)	95,617	—	(179,407)
Gains/(losses) on fair value hedging relationships	$ 470	$ 1,948	$ (43)	$ (2,715)	$ —	$ (340)
Expense related to interest settlements on cash flow hedging relationships:						
Interest settlements reclassified from AOCI into net income on derivatives	$ —	$ —	$ —	$ (7,399)	$ —	$ (7,399)
Recognized on hedged items	—	—	—	(2,657)	—	(2,657)
Discount amortization recognized on hedged items	—	—	—	(37)	—	(37)
Expense recognized on cash flow hedges	$ —	$ —	$ —	$ (10,093)	$ —	$ (10,093)
Gains on financial derivatives not designated in hedge relationships:						
Losses on interest rate swaps	$ —	$ —	$ —	$ —	$ (2,144)	$ (2,144)
Interest expense on interest rate swaps	—	—	—	—	3,259	3,259
Treasury futures	—	—	—	—	(791)	(791)
Gains on financial derivatives not designated in hedge relationships	$ —	$ —	$ —	$ —	$ 324	$ 324

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 December 31, 2023 and 2022:

Table 6.3

	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)	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
	(in thousands)			
Investment securities, Available-for-Sale, at fair value	$ 1,251,386	$ 876,063	$ (88,635)	$ (107,107)
Farmer Mac Guaranteed Securities, Available-for-Sale, at fair value	5,497,948	4,814,784	(257,436)	(346,873)
Loans held for investment, at amortized cost	1,699,361	1,623,301	(305,592)	(327,278)
Notes Payable[1]	(13,350,111)	(12,151,382)	250,418	531,086

(1) Carrying amount represents amortized cost.

The following tables present the fair value of financial assets and liabilities, based on the terms of Farmer Mac's master netting arrangements as of December 31, 2023 and 2022:

Table 6.4

	December 31, 2023						
				Gross Amounts Not Offset in the Consolidated Balance Sheet			
	Gross Amount Recognized	Gross Amounts offset in the Consolidated Balance Sheet	Net Amount Presented in the Consolidated Balance Sheet[1]	Netting Adjustments	Financial instruments pledged	Cash Collateral[2]	Net Amount[3]
	(in thousands)						
Assets:							
Uncleared derivatives	$ 25,751	$ —	$ 25,751	$ (25,727)	$ —	$ —	$ 24
Cleared derivatives	10,388	(1,236)	9,152	—	—	—	9,152
Total	$ 36,139	$ (1,236)	$ 34,903	$ (25,727)	$ —	$ —	$ 9,176
Liabilities:							
Uncleared derivatives	$ (100,114)	$ —	$ (100,114)	$ 25,727	$ —	$ 69,360	$ (5,027)
Cleared derivatives	(1,236)	1,236	—	—	—	—	—
Total	$ (101,350)	$ 1,236	$ (100,114)	$ 25,727	$ —	$ 69,360	$ (5,027)

(1) Amounts presented may not agree to the consolidated balance sheet related to counterparties not subject to master netting agreements.
(2) Cash collateral excludes $15.2 million of collateral posted and $2.0 million of collateral received related to counterparties not subject to master netting agreements.
(3) Any over-collateralization at an individual clearing agent and/or counterparty level is not included in the determination of the net amount. As of December 31, 2023, Farmer Mac had additional net exposure of $207.2 million due to instances where Farmer Mac's collateral to a counterparty exceeded the net derivative position.

	December 31, 2022						
				Gross Amounts Not Offset in the Consolidated Balance Sheet			
	Gross Amount Recognized	Gross Amounts offset in the Consolidated Balance Sheet	Net Amount Presented in the Consolidated Balance Sheet(1)	Netting Adjustments	Financial instruments pledged	Cash Collateral (2)	Net Amount(3)
	(in thousands)						
Assets:							
Uncleared derivatives	$ 27,132	$ —	$ 27,132	$ (27,132)	$ —	$ —	$ —
Cleared derivatives	14,450	(5,212)	9,238	—	—	—	9,238
Total	$ 41,582	$ (5,212)	$ 36,370	$ (27,132)	$ —	$ —	$ 9,238
Liabilities:							
Uncleared derivatives	$ (149,864)	$ —	$ (149,864)	$ 27,132	$ —	$ 121,065	$ (1,667)
Cleared derivatives	(5,212)	5,212	—	—	—	—	—
Total	$ (155,076)	$ 5,212	$ (149,864)	$ 27,132	$ —	$ 121,065	$ (1,667)

(1) Amounts presented may not agree to the consolidated balance sheet related to counterparties not subject to master netting agreements.

(2) Cash collateral excludes $23.7 million of collateral posted related to counterparties not subject to master netting agreements.

(3) Any over-collateralization at an individual clearing agent and/or counterparty level is not included in the determination of the net amount. As of December 31, 2022, Farmer Mac had additional net exposure of $204.0 million due to instances where Farmer Mac's collateral to a counterparty exceeded the net derivative position.

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 December 31, 2023 or 2022, it could have been required to settle its obligations under the agreements, but would not have been required to post additional collateral. As of December 31, 2023 and 2022, 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 $25.8 billion notional amount of interest rate swaps outstanding as of December 31, 2023, $20.5 billion were cleared through the swap clearinghouse, the Chicago Mercantile Exchange ("CME"). Of Farmer Mac's $23.9 billion notional amount of interest rate swaps outstanding as of December 31, 2022, $19.5 billion were cleared through the CME. During 2023 and throughout 2022, 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, which was completed as of the end of the second quarter of 2023.

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 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 December 31, 2023 and 2022:

Table 7.1

	December 31, 2023			
	Outstanding as of December 31		Average Outstanding During the Year	
	Amount	Weighted-Average Rate	Amount	Weighted-Average Rate
	(dollars in thousands)			
Due within one year:				
Discount notes	$ 1,734,387	5.32 %	$ 1,097,300	5.08 %
Medium-term notes	384,970	5.07 %	1,731,308	4.09 %
Current portion of medium-term notes	5,967,811	2.90 %		
Total due within one year	$ 8,087,168	3.52 %		
Due after one year:				
Medium-term notes due in:				
Two years	$ 5,523,671	3.27 %		
Three years	3,825,702	2.27 %		
Four years	3,038,229	3.44 %		
Five years	2,623,202	4.37 %		
Thereafter	3,488,987	2.80 %		
Total due after one year	$ 18,499,791	3.16 %		
Total principal net of discounts	$ 26,586,959	3.27 %		
Hedging adjustments	(250,417)			
Total	$ 26,336,542			

	December 31, 2022			
	Outstanding as of December 31		Average Outstanding During the Year	
	Amount	Weighted-Average Rate	Amount	Weighted-Average Rate
	(dollars in thousands)			
Due within one year:				
Discount notes	$ 565,578	3.91 %	$ 1,325,026	0.96 %
Medium-term notes	2,547,733	3.54 %	1,442,932	2.11 %
Current portion of medium-term notes	4,920,864	1.49 %		
Total due within one year	$ 8,034,175	2.31 %		
Due after one year:				
Medium-term notes due in:				
Two years	$ 4,072,740	1.71 %		
Three years	3,506,480	2.10 %		
Four years	2,967,625	1.44 %		
Five years	2,361,197	3.12 %		
Thereafter	4,057,982	2.60 %		
Total due after one year	$ 16,966,024	2.15 %		
Total principal net of discounts	$ 25,000,199	2.20 %		
Hedging adjustments	(531,086)			
Total	$ 24,469,113			

The maximum amount of Farmer Mac's discount notes outstanding at any month end during the years ended December 31, 2023 and 2022 was $1.8 billion and $2.2 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 2024 as of December 31, 2023:

Table 7.2

Debt Callable in 2024 as of December 31, 2023, by Maturity		
	Amount	Weighted-Average Rate
	(dollars in thousands)	
Maturity:		
2025	$ 970,468	2.88 %
2026	1,398,727	2.05 %
2027	883,962	2.80 %
2028	582,892	4.27 %
Thereafter	1,805,423	2.54 %
Total	$ 5,641,472	2.70 %

The following schedule summarizes the earliest interest rate reset date, or debt maturities, of total borrowings outstanding as of December 31, 2023, 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
	(dollars in thousands)	
Debt with interest rate resets, or debt maturities in:		
2024	$ 10,125,494	3.95 %
2025	4,568,438	2.79 %
2026	3,622,798	2.07 %
2027	2,747,407	3.20 %
2028	2,380,412	4.24 %
Thereafter	3,142,410	2.47 %
Total principal net of discounts	$ 26,586,959	3.27 %

During the years ended December 31, 2023 and 2022, Farmer Mac called $233.0 million and $26.0 million 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 December 31, 2023, Farmer Mac had not used this borrowing authority.

Gains on Repurchases of Outstanding Debt

No outstanding debt repurchases were made in the year ended December 31, 2023. During the years ended December 31, 2022 and 2021, Farmer Mac repurchased $27.0 million and $23.0 million of outstanding debt at a gain of $0.2 million and $0.0 million, respectively.

8. 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 December 31, 2023 and 2022, Farmer Mac had no loans held for sale.

Under the Agricultural Finance line of business, Farmer Mac has two segments – Farm & Ranch and Corporate AgFinance. The segments are characterized by similarities in risk attributes and the manner in which Farmer Mac monitors and assesses credit risk.

The following table includes loans held for investment and displays the composition of the loan balances as of December 31, 2023 and 2022:

Table 8.1

	As of December 31, 2023			As of December 31, 2022		
	Unsecuritized	In Consolidated Trusts	Total	Unsecuritized	In Consolidated Trusts	Total
			(in thousands)			
Agricultural Finance loans						
Farm & Ranch	$ 5,133,450	$ 1,432,261	$ 6,565,711	$ 5,150,750	$ 1,211,576	$ 6,362,326
Corporate AgFinance	1,259,723	—	1,259,723	1,166,253	—	1,166,253
Total Agricultural Finance loans	6,393,173	1,432,261	7,825,434	6,317,003	1,211,576	7,528,579
Rural Infrastructure Finance loans	3,534,763	—	3,534,763	3,021,266	—	3,021,266
Total unpaid principal balance[(1)]	9,927,936	1,432,261	11,360,197	9,338,269	1,211,576	10,549,845
Unamortized premiums, discounts, fair value hedge basis adjustment, and other cost basis adjustments	(304,817)	—	(304,817)	(329,290)	—	(329,290)
Total loans	9,623,119	1,432,261	11,055,380	9,008,979	1,211,576	10,220,555
Allowance for losses	(15,588)	(443)	(16,031)	(14,629)	(460)	(15,089)
Total loans, net of allowance	$ 9,607,531	$ 1,431,818	$ 11,039,349	$ 8,994,350	$ 1,211,116	$ 10,205,466

(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 December 31, 2023 and 2022:

Table 8.2

	December 31, 2023	December 31, 2022
	Allowance for Losses	Allowance for Losses
	(in thousands)	
Loans:		
Agricultural Finance loans		
Farm & Ranch	$ 3,936	$ 4,044
Corporate AgFinance	2,948	2,731
Total Agricultural Finance Loans	6,884	6,775
Rural Infrastructure Finance loans	9,147	8,314
Total	$ 16,031	$ 15,089

The following is a summary of the changes in the allowance for losses for each year in the three-year period ended December 31, 2023:

Table 8.3

	Agricultural Finance loans			
	Farm & Ranch(1)	Corporate AgFinance(2)	Total	Rural Infrastructure Finance loans(3)
	(in thousands)			
Balance as of December 31, 2020	$ 3,404	$ 341	$ 3,745	$ 10,087
(Release of)/provision for losses	(1,576)	219	(1,357)	512
Recovery	1,054	—	1,054	—
Balance as of December 31, 2021	$ 2,882	$ 560	$ 3,442	$ 10,599
Provision for/(release of) losses	1,246	2,171	3,417	(2,285)
Charge-offs	(84)	—	(84)	—
Balance as of December 31, 2022	$ 4,044	$ 2,731	$ 6,775	$ 8,314
(Release of)/provision for losses	(108)	217	109	833
Charge-offs	—	—	—	—
Balance as of December 31, 2023	$ 3,936	$ 2,948	$ 6,884	$ 9,147

(1) As of December 31, 2023 and 2022, the allowance for losses for Agricultural Finance Farm & Ranch loans includes $1.0 million and $1.9 million allowance for collateral dependent assets secured by agricultural real estate, respectively.
(2) As of December 31, 2023 and 2022, the allowance for losses for Agricultural Finance Corporate AgFinance loans includes $0.0 million and $2.4 million allowance for collateral dependent assets secured by agricultural real estate, respectively.
(3) As of December 31, 2023 and 2022, the allowance for losses for Rural Infrastructure Finance loans includes no allowance for collateral dependent assets.

The $0.8 million net provision to the allowance for the Rural Infrastructure Finance portfolio during the year ended December 31, 2023 was primarily attributable to a single telecommunications loan that was downgraded to substandard during the year. The $0.1 million net provision to the allowance for the Agricultural Finance mortgage loan portfolio during the year ended December 31, 2023 was primarily attributable to increased loan volume.

The $2.3 million net release from the allowance for the Rural Infrastructure Finance portfolio during the year ended December 31, 2022 was primarily attributable to a risk rating upgrade on a single loan and improvements in forecasts of future economic conditions. 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 $3.4 million net provision to the allowance for the Agricultural Finance mortgage loan portfolio during the year ended December 31, 2022 was primarily attributable to a risk rating downgrade on a single agricultural storage and processing loan, due to its ongoing bankruptcy proceedings.

The provision to the allowance for Rural Infrastructure Finance loan losses of $0.5 million recorded during the year ended 2021 was primarily attributable to the impact of the Texas Arctic Freeze, partially offset by the impact of improving economic factor forecasts. The $1.4 million release from the allowance for the Agricultural Finance mortgage loan portfolio during the year ended 2021 was primarily attributable to a recovery on the payoff of the agricultural storage and processing loan secured by a specialized poultry facility that had been partially charged off in 2020 and 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 December 31, 2023 and 2022:

Table 8.4

	As of December 31, 2023						
	Accruing						
	Current	30-59 Days	60-89 Days	90 Days and Greater[2]	Total Past Due	Nonaccrual loans[3][4]	Total Loans
	(in thousands)						
Loans[1]:							
Agricultural Finance loans							
Farm & Ranch	$ 6,470,205	$ 15,326	$ 3,953	$ 10,991	$ 30,270	$ 65,236	$ 6,565,711
Corporate AgFinance	1,259,723	—	—	—	—	—	1,259,723
Total Agricultural Finance loans	7,729,928	15,326	3,953	10,991	30,270	65,236	7,825,434
Rural Infrastructure Finance loans	3,534,763	—	—	—	—	—	3,534,763
Total	$11,264,691	$ 15,326	$ 3,953	$ 10,991	$ 30,270	$ 65,236	$11,360,197

(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 (single-class) 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 $25.7 million of nonaccrual loans for which there was no associated allowance. During the year ended December 31, 2023, Farmer Mac received $2.6 million in interest on nonaccrual loans.

	As of December 31, 2022						
	Accruing						
	Current	30-59 Days	60-89 Days	90 Days and Greater[(2)]	Total Past Due	Nonaccrual loans[(3)(4)]	Total Loans
	(in thousands)						
Loans[(1)]:							
Agricultural Finance loans							
Farm & Ranch	$ 6,287,326	$ 10,066	$ 392	$ 1,140	$ 11,598	$ 63,402	$ 6,362,326
Corporate AgFinance	1,150,690	—	—	—	—	15,563	1,166,253
Total Agricultural Finance loans	7,438,016	10,066	392	1,140	11,598	78,965	7,528,579
Rural Infrastructure Finance loans	3,021,266	—	—	—	—	—	3,021,266
Total	$10,459,282	$ 10,066	$ 392	$ 1,140	$ 11,598	$ 78,965	$10,549,845

(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 (single-class) 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 $22.0 million of nonaccrual loans for which there was no associated allowance. During the year ended December 31, 2022, Farmer Mac received $5.6 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 December 31, 2023 and 2022, by year of origination:

Table 8.5

	As of December 31, 2023							
	Year of Origination:							
	2023	2022	2021	2020	2019	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance - Farm & Ranch loans[(1)]:								
Internally Assigned Risk Rating:								
Acceptable	$ 530,956	$1,137,226	$1,653,780	$1,120,917	$ 323,922	$1,068,862	$ 385,766	$6,221,429
Special mention[(2)]	70,524	46,529	27,957	11,591	4,782	21,257	8,777	191,417
Substandard[(3)]	3,357	23,987	10,164	17,395	28,942	58,606	10,414	152,865
Total	$ 604,837	$1,207,742	$1,691,901	$1,149,903	$ 357,646	$1,148,725	$ 404,957	$6,565,711
For the Year Ended December 31, 2023:								
Current period 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, 2023							
	Year of Origination:							
	2023	2022	2021	2020	2019	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance - Corporate AgFinance[1]:								
Internally Assigned Risk Rating:								
Acceptable	$ 207,279	$ 97,922	$ 261,992	$ 123,158	$ 99,352	$ 112,947	$ 254,325	$ 1,156,975
Special mention[2]	—	14,522	15,408	50,822	20,333	—	1,663	102,748
Substandard[3]	—	—	—	—	—	—	—	—
Total	$ 207,279	$ 112,444	$ 277,400	$ 173,980	$ 119,685	$ 112,947	$ 255,988	$ 1,259,723
For the Year Ended December 31, 2023:								
Current period 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, 2023							
	Year of Origination:							
	2023	2022	2021	2020	2019	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Rural Infrastructure Finance loans[1]:								
Internally Assigned Risk Rating:								
Acceptable	$ 618,946	$ 681,272	$ 187,746	$ 593,841	$ 701,937	$ 611,548	$ 100,223	$ 3,495,513
Special mention[2]	—	9,850	—	—	—	—	—	9,850
Substandard[3]	—	29,400	—	—	—	—	—	29,400
Total	$ 618,946	$ 720,522	$ 187,746	$ 593,841	$ 701,937	$ 611,548	$ 100,223	$ 3,534,763
For the Year Ended December 31, 2023:								
Current period 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, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance - Farm & Ranch loans[(1)]:								
Internally Assigned Risk Rating:								
Acceptable	$1,157,829	$1,704,547	$1,187,474	$ 360,704	$ 242,491	$ 947,535	$ 385,503	$ 5,986,083
Special mention[(2)]	91,099	68,260	25,629	11,254	5,325	17,797	2,452	221,816
Substandard[(3)]	3,094	8,814	22,976	23,937	17,845	67,654	10,107	154,427
Total	$1,252,022	$1,781,621	$1,236,079	$ 395,895	$ 265,661	$1,032,986	$ 398,062	$ 6,362,326
For the Year Ended December 31, 2022:								
Current period charge-offs	$ —	$ —	$ —	$ —	$ —	$ (84)	$ —	$ (84)

(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, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance - Corporate AgFinance loans[(1)]:								
Internally Assigned Risk Rating:								
Acceptable	$ 145,263	$ 299,729	$ 221,560	$ 108,230	$ 76,454	$ 44,827	$ 232,107	$ 1,128,170
Special mention[(2)]	—	—	—	20,698	—	—	2,145	22,843
Substandard[(3)]	—	—	4,598	—	—	—	10,642	15,240
Total	$ 145,263	$ 299,729	$ 226,158	$ 128,928	$ 76,454	$ 44,827	$ 244,894	$ 1,166,253
For the Year Ended December 31, 2022:								
Current period 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, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Rural Infrastructure Finance loans[1]:								
Internally Assigned Risk Rating:								
Acceptable	$ 741,021	$ 220,420	$ 629,223	$ 739,270	$ 7,932	$ 649,830	$ 33,570	$ 3,021,266
Special mention[2]	—	—	—	—	—	—	—	—
Substandard[3]	—	—	—	—	—	—	—	—
Total	$ 741,021	$ 220,420	$ 629,223	$ 739,270	$ 7,932	$ 649,830	$ 33,570	$ 3,021,266
For the Year Ended December 31, 2022:								
Current period 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.

9. EQUITY

Common Stock

Farmer Mac has three classes of common stock outstanding:

- Class A voting common stock, which may be held only by banks, insurance companies, and other financial institutions or similar entities that are not institutions of the Farm Credit System. By federal statute, no holder of Class A voting common stock may directly or indirectly be a beneficial owner of more than 33% of the outstanding shares of Class A voting common stock.
- Class B voting common stock, which may be held only by institutions of the Farm Credit System. There are no restrictions on the maximum holdings of Class B voting common stock.
- Class C non-voting common stock, which has no ownership restrictions.

During 2023, 2022, and 2021, Farmer Mac paid a quarterly dividend of $1.10, $0.95, and $0.88 per share on all classes of its common stock. Farmer Mac's ability to declare and pay dividends on its common stock could be restricted if it fails to comply with applicable capital requirements.

Except for the period from March 16, 2020 to March 10, 2021, Farmer Mac has had a common stock repurchase program in place since third quarter 2015. On March 10, 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 that two-year period. In March 2023, Farmer Mac's board of directors renewed 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 2025. Farmer Mac did not repurchase any shares of its Class C non-voting common stock during 2023. As of December 31, 2023, 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.

Preferred Stock

The following table presents the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock, the Series F Preferred Stock, and the Series G Preferred Stock (collectively referred to as the "Outstanding Preferred Stock") as of December 31, 2023:

Table 9.1

Name	Issuance Date	Issuance Cost	Shares Issued	Annual Dividend Rate[2]	Liquidation Value Per Share	First Possible Redemption Date[3]
Series C[1]	June 20, 2014	$ 1,618,583	3,000,000	6.000 %	$ 25.00	July 18, 2024
Series D	May 13, 2019	$ 3,340,456	4,000,000	5.700 %	$ 25.00	July 17, 2024
Series E	May 20, 2020	$ 2,496,750	3,180,000	5.750 %	$ 25.00	July 17, 2025
Series F	August 20, 2020	$ 3,839,902	4,800,000	5.250 %	$ 25.00	October 17, 2025
Series G	May 27, 2021	$ 3,661,677	5,000,000	4.875 %	$ 25.00	July 17, 2026

(1) The Series C Preferred Stock pays an annual dividend rate of 6.00% from the date of issuance to and including the quarterly payment date occurring on July 17, 2024, and thereafter, at a floating rate equal to three-month LIBOR plus 3.26%, which Farmer Mac expects will be converted to the Term Loan Secured Overnight Financing Rate published by CME Group Benchmark Administration, Ltd., plus a spread adjustment based on the tenor of the securities, if not redeemed prior to that payment date.

(2) Dividends on all series of Outstanding Preferred Stock are non-cumulative, which means that if Farmer Mac's board of directors has not declared a dividend before the applicable dividend payment date for any dividend period, such dividend will not be paid or cumulate, and Farmer Mac will have no obligation to pay dividends for such dividend period, whether or not dividends on any series of Outstanding Preferred Stock are declared for any future dividend period.

(3) Farmer Mac has the right but not the obligation to redeem.

The following tables present the quarterly dividends paid by Farmer Mac on its outstanding preferred during 2023, 2022, and 2021:

Table 9.2

	2023			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	$ 0.3750	$ 0.3750	$ 0.3750	$ 0.3750
5.700% Non-Cumulative Preferred Stock, Series D	0.3563	0.3563	0.3563	0.3563
5.750% Non-Cumulative Preferred Stock, Series E	0.3594	0.3594	0.3594	0.3594
5.250% Non-Cumulative Preferred Stock, Series F	0.3281	0.3281	0.3281	0.3281
4.875% Non-Cumulative Preferred Stock, Series G	0.3047	0.3047	0.3047	0.3047

	2022			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	$ 0.3750	$ 0.3750	$ 0.3750	$ 0.3750
5.700% Non-Cumulative Preferred Stock, Series D	0.3563	0.3563	0.3563	0.3563
5.750% Non-Cumulative Preferred Stock, Series E	0.3594	0.3594	0.3594	0.3594
5.250% Non-Cumulative Preferred Stock, Series F	0.3281	0.3281	0.3281	0.3281
4.875% Non-Cumulative Preferred Stock, Series G	0.3047	0.3047	0.3047	0.3047

	2021			
	1st Quarter	2nd Quarter[(1)]	3rd Quarter	4th Quarter
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	$ 0.3750	$ 0.3750	$ 0.3750	$ 0.3750
5.700% Non-Cumulative Preferred Stock, Series D	0.3563	0.3563	0.3563	0.3563
5.750% Non-Cumulative Preferred Stock, Series E	0.3594	0.3594	0.3594	0.3594
5.250% Non-Cumulative Preferred Stock, Series F	0.3281	0.3281	0.3281	0.3281
4.875% Non-Cumulative Preferred Stock, Series G	—	0.1693	0.3047	0.3047

(1) For second quarter 2021, dividend payment includes $0.1693 per share on the Series G Preferred Stock for the period from but not including May 27, 2021 (issuance date) to and including July 17, 2021.

Equity-Based Incentive Compensation Plans

Farmer Mac's Amended and Restated 2008 Omnibus Incentive Compensation Plan authorizes the grant of restricted stock units and SARs, among other alternative forms of equity-based compensation, to Farmer Mac's directors, officers, and employees. SARs awarded to officers and employees vest annually in thirds. Farmer Mac has not granted SARs to directors since 2008. If not exercised or cancelled earlier due to the termination of employment, SARs granted to officers or employees expire after 10 years from the grant date. For all SARs granted, the exercise price is equal to the closing price of Farmer Mac's Class C non-voting common stock on the date of grant. SARs granted during 2023, 2022, and 2021 have a weighted average exercise price per share of $135.12, $120.38 and $88.68, respectively. During 2023, 2022, and 2021, restricted stock unit awards were granted to employees, officers, and directors with vesting periods of one to three years.

The following tables summarize SARs and non-vested restricted stock unit activity for the years ended December 31, 2023, 2022, and 2021:

Table 9.3

	For the Years Ended December 31,					
	2023		2022		2021	
	SARs	Weighted-Average Exercise Price	SARs	Weighted-Average Exercise Price	SARs	Weighted-Average Exercise Price
Outstanding, beginning of year	132,163	$ 75.82	130,409	$ 66.10	116,417	$ 57.16
Granted	16,761	135.12	18,432	120.38	28,575	88.68
Exercised	(22,972)	56.82	(16,678)	49.04	(14,583)	38.99
Canceled	—	—	—	—	—	—
Outstanding, end of year	125,952	87.18	132,163	75.82	130,409	66.10
Exercisable at end of year	87,378	73.15	83,054	63.12	72,106	52.85

	For the Years Ended December 31,					
	2023		2022		2021	
	Non-vested Restricted Stock Units	Weighted-Average Grant Date Fair Value	Non-vested Restricted Stock Units	Weighted-Average Grant Date Fair Value	Non-vested Restricted Stock Units	Weighted-Average Grant Date Fair Value
Outstanding, beginning of year	100,025	$ 91.84	103,891	$ 78.55	83,956	$ 71.76
Granted	59,745	135.56	38,668	120.14	53,358	88.92
Canceled	(62)	88.68	(2,711)	97.44	(1,184)	79.82
Vested and issued	(45,355)	78.12	(39,823)	84.25	(32,239)	77.98
Outstanding, end of year	114,353	120.13	100,025	91.84	103,891	78.55

The cancellations of SARs and non-vested restricted stock units during 2023, 2022, and 2021 were due to unvested awards terminating in accordance with the provisions of the applicable equity compensation plans or award agreements upon directors' or employees' departures from Farmer Mac.

Cash is not received from exercises of SARs or the vesting and issuance of restricted stock units. During 2023, 2022, and 2021, the reduction of income taxes payable as a result of the deduction for the exercise of SARs and the vesting of restricted stock units was $1.7 million, $1.2 million, and $0.9 million, respectively.

During 2023, 2022, and 2021, Farmer Mac recorded a net decrease to additional paid-in capital of $3.1 million, $1.9 million, and $1.3 million, respectively, related to stock-based compensation awards.

As of December 31, 2023, Farmer Mac had no stock options outstanding. The following tables summarize information about SARs and non-vested restricted stock units outstanding as of December 31, 2023:

Table 9.4

SARs:

	Outstanding		Exercisable		Vested or Expected to Vest	
Range of Exercise Prices	SARs	Weighted-Average Remaining Contractual Life	SARs	Weighted-Average Remaining Contractual Life	SARs	Weighted-Average Remaining Contractual Life
$25.00 - $39.99	18,735	1.6 years	18,735	1.6 years	18,735	1.6 years
40.00 - 54.99	—	0.0 years	—	0.0 years	—	0.0 years
55.00 - 69.99	3,381	3.3 years	3,381	3.3 years	3,381	3.3 years
70.00 - 84.99	39,642	5.8 years	39,642	5.8 years	39,642	5.8 years
85.00 - 99.99	29,001	6.6 years	19,476	6.3 years	29,001	6.6 years
100.00 - 114.99	—	0.0 years	—	0.0 years	—	0.0 years
115.00 - 129.99	18,432	8.2 years	6,144	8.2 years	18,432	8.2 years
130.00 - 144.99	16,761	9.3 years	—	0.0 years	16,761	9.3 years
	125,952		87,378		125,952	

Non-vested Restricted Stock Units:

	Outstanding		Expected to Vest	
Weighted-Average Grant-Date Fair Value	Non-vested Restricted Stock Units	Weighted-Average Remaining Contractual Life	Non-vested Restricted Stock Units	Weighted-Average Remaining Contractual Life
$80.00 - $94.99	30,182	0.3 years	30,450	0.1 years
95.00 - 109.99	219	0.3 years	219	0.3 years
110.00 - 124.99	24,779	1.3 years	24,779	1.3 years
125.00 - 139.99	56,194	2.3 years	56,194	2.3 years
140.00 - 154.99	2,979	2.3 years	2,979	2.3 years
	114,353		114,621	

As of December 31, 2023 and 2022, the intrinsic value of SARs, and non-vested restricted stock units outstanding, exercisable, and vested or expected to vest was $35.0 million and $16.3 million, respectively. During 2023, 2022, and 2021, the total intrinsic value of SARs exercised was $2.4 million, $1.1 million, and $0.9 million, respectively. As of December 31, 2023, there was $7.7 million of total unrecognized compensation cost related to non-vested SARs and restricted stock unit awards. This cost is expected to be recognized over a weighted-average period of 1.9 years.

The weighted-average grant date fair values of SARs and restricted stock unit awards granted in 2023, 2022, and 2021 were $114.68, $91.94, and $65.48 per share, respectively. Under the fair value-based method of accounting for stock-based compensation cost, Farmer Mac recognized compensation expense of $6.8 million, $4.6 million, and $4.3 million during 2023, 2022, and 2021, respectively.

The fair value of SARs was estimated using the Black-Scholes option pricing model based on the following assumptions:

Table 9.5

	For the Year Ended December 31,		
	2023	2022	2021
Risk-free interest rate	4.1%	1.9%	0.9%
Expected years until exercise	6 years	6 years	6 years
Expected stock volatility	36.6%	37.4%	39.1%
Dividend yield	3.3%	3.2%	4.0%

The risk-free interest rates used in the model were based on the U.S. Treasury yield curve in effect at the grant date. Farmer Mac used historical data to estimate the timing of option exercises and stock option cancellation rates used in the model. Expected volatilities were based on historical volatility of Farmer Mac's Class C non-voting common stock. The dividend yields were based on the expected dividends as a percentage of the value of Farmer Mac's Class C non-voting common stock on the grant date.

Because stock will be issued upon the vesting of restricted stock units regardless of the stock price, expected stock volatility is not considered in determining grant date fair value. Restricted stock unit awards also accrue dividends which are paid at vesting. The weighted-average grant date fair value of the restricted stock units awarded in 2023, 2022, and 2021 was $135.56, $120.14, and $88.92 per unit, respectively, which is based on the closing price of Farmer Mac's Class C non-voting stock on the date granted.

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 December 31, 2023 and 2022, 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 December 31, 2023, Farmer Mac's minimum capital requirement was $862.6 million and its core capital level was $1.5 billion, which was $589.4 million above the minimum capital requirement as of that date. As of December 31, 2022, Farmer Mac's minimum capital requirement was $805.9 million and its core capital level was $1.3 billion, which was $516.9 million above the minimum capital requirement as of that date.

In accordance with a rule of the Farm Credit Administration ("FCA") 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.

10. INCOME TAXES

Farmer Mac is subject to federal corporate income taxes but is exempt from state and local corporate income taxes. The components of the federal corporate income tax expense for the years ended December 31, 2023, 2022, and 2021 were as follows:

Table 10.1

	For the Year Ended December 31,		
	2023	2022	2021
		(in thousands)	
Current income tax expense	$ 46,712	$ 35,609	$ 38,645
Deferred income tax expense	6,386	11,926	(2,273)
Income tax expense	$ 53,098	$ 47,535	$ 36,372

A reconciliation of income tax at the statutory federal corporate income tax rate to the income tax expense for the years ended December 31, 2023, 2022, and 2021 is as follows:

Table 10.2

	For the Year Ended December 31,		
	2023	2022	2021
		(dollars in thousands)	
Tax expense at statutory rate	$ 53,151	$ 47,393	$ 36,217
Excess tax benefits related to stock-based awards	(924)	(401)	(300)
Other	871	543	455
Income tax expense	$ 53,098	$ 47,535	$ 36,372
Statutory tax rate	21.0 %	21.0 %	21.0 %

The components of the deferred tax assets and liabilities as of December 31, 2023 and 2022 were as follows:

Table 10.3

	As of December 31,	
	2023	2022
	(in thousands)	
Deferred tax assets:		
Basis difference related to hedge items	$ 84,922	$ 53,360
Unrealized losses on available-for-sale securities	20,514	26,371
Allowance for losses	3,842	3,603
Compensation and Benefits	2,127	1,639
Stock-based compensation	2,481	1,755
Capital loss carryforwards	35	32
Valuation allowance	(35)	(32)
Other	2,051	1,444
Total deferred tax assets	$ 115,937	$ 88,172
Deferred tax liability:		
Basis differences related to financial derivatives	$ 80,887	$ 49,526
Unrealized gains on cash flow hedges	9,843	12,855
Basis difference related to structured securitizations	16,647	7,782
Other	90	5
Total deferred tax liability	$ 107,467	$ 70,168
Net deferred tax asset	$ 8,470	$ 18,004

After the evaluation of both positive and negative objective evidence regarding the likelihood that its deferred tax assets will be realized, Farmer Mac established a valuation allowance of $35,000 and $32,000, as of December 31, 2023 and 2022, respectively, which was attributable to capital loss carryforwards on investment securities. Farmer Mac did not establish a valuation allowance for the remainder of its deferred tax assets because it believes it is more likely than not that those deferred tax assets will be realized. As of December 31, 2023, no capital loss carryforwards expired. As of December 31, 2023, the amount of capital loss carryforwards was $0.2 million. These capital loss carryforwards will expire beginning in 2024.

As of December 31, 2023 and 2022, Farmer Mac did not identify any uncertain tax positions.

Farmer Mac did not have any unrecognized tax benefits for the years ended December 31, 2023, 2022, and 2021.

Tax years 2020 through 2023 remain subject to examination.

11. EMPLOYEE BENEFITS

Farmer Mac makes contributions to a defined contribution retirement plan for all of its employees. Farmer Mac contributed 13.2% of the lesser of an employee's gross salary and the maximum compensation permitted under the Economic Growth and Tax Relief Reconciliation Act of 2001 ("EGTRRA") ($330,000 for 2023, $305,000 for 2022, and $290,000 for 2021), plus 5.7% of the difference between: (1) the lesser of the gross salary and the amount established under EGTRRA and (2) the Social Security Taxable Wage Base. Employees are fully vested after having been employed for approximately 3 years. Expenses for this plan for the years ended December 31, 2023, 2022, and 2021 were $3.6 million, $3.1 million, and $2.7 million, respectively.

Farmer Mac established a Nonqualified Deferred Compensation Plan ("NQDC Plan") for its executive officers effective May 1, 2017. Under the NQDC Plan, Farmer Mac credits the account of each participant each calendar year with an amount equal to 18.9% of the difference between: (1) the amount established under EGTRRA and (2) a participant's gross annual base salary, which for purposes of calculating employer credits under the NQDC Plan is capped at $750,000 for all other participants. This fixed contribution percentage is the same formula used for determining employer contributions to Farmer Mac's defined contribution retirement plan based on an employee's gross annual base salary that is above the amount established under EGTRRA for that year. Expenses for the NQDC Plan were $0.1 million, $0.2 million, and $0.2 million, respectively, for the years ended December 31, 2023, 2022, and 2021.

12. GUARANTEES AND COMMITMENTS

Farmer Mac offers two credit enhancement alternatives to direct loan purchases that allow approved lenders the ability to retain the cash flow benefits of their loans and increase their liquidity and lending capacity: (1) Farmer Mac Guaranteed Securities and (2) LTSPCs, both of which are available through each of the Agricultural Finance and Rural Infrastructure Finance lines of business.

The contractual terms of Farmer Mac's off-balance sheet guarantees and LTSPCs range from less than 1 year to 30 years. However, the actual term of each guarantee or LTSPC may be significantly less than the contractual term based on the prepayment characteristics of the related loans. Farmer Mac's maximum potential exposure under these off-balance sheet guarantees and LTSPCs is the unpaid principal balance of the underlying loans. Farmer Mac's maximum potential exposure was $4.1 billion and $3.9 billion as of December 31, 2023 and 2022, respectively. The maximum exposure from these guarantees and LTSPCs is not representative of the actual loss Farmer Mac is likely to incur, based on historical loss experience. In the event Farmer Mac was required to make payments under its guarantees or LTSPCs, Farmer Mac would have the right to enforce the terms of the loans, and in the event of default, would have access to the underlying collateral. For information on Farmer Mac's methodology for determining the reserve for losses for its financial guarantees, see Note 2(h). The following table presents changes in Farmer Mac's guarantee and commitment obligations in the consolidated balance sheets for the years ended December 31, 2023, 2022, and 2021:

Table 12.1

	For the Years Ended December 31,		
	2023	2022	2021
		(in thousands)	
Beginning balance, January 1	$ 46,582	$ 43,926	$ 35,535
Additions to the guarantee and commitment obligation[(1)]	5,312	8,569	15,648
Amortization of the guarantee and commitment obligation	(4,331)	(5,913)	(7,257)
Ending balance, December 31	$ 47,563	$ 46,582	$ 43,926

(1) Represents the fair value of the guarantee and commitment obligation at inception.

Off-Balance Sheet Farmer Mac Guaranteed Securities

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 December 31, 2023 and 2022, not including offsets provided by any recourse provisions, recoveries from third parties, or collateral for the underlying loans:

Table 12.2

Outstanding Balance of Off-Balance Sheet Farmer Mac Guaranteed Securities		
	As of December 31, 2023	As of December 31, 2022
	(in thousands)	
Agricultural Finance		
Farmer Mac Guaranteed Securities	$ 452,602	$ 500,953
Rural Infrastructure Finance		
Farmer Mac Guaranteed Securities	—	1,169
Total off-balance sheet Farmer Mac Guaranteed Securities	$ 452,602	$ 502,122

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 12.3

	For the Year Ended December 31,		
	2023	2022	2021
		(in thousands)	
Proceeds from new securitizations	$ 222,188	$ 357,841	$ 291,393
Guarantee fees received	1,620	1,852	1,029

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 12.4

	As of December 31, 2023	As of December 31, 2022
	(dollars in thousands)	
Guarantee and commitment obligation	$ 5,969	$ 6,461
Weighted average remaining maturity:		
Farmer Mac Guaranteed Securities	21.9 years	21.4 years
AgVantage Securities	0.0 years	2.0 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 12.5

	As of December 31, 2023	As of December 31, 2022
	(dollars in thousands)	
Guarantee and commitment obligation[1]	$ 41,594	$ 40,121
Maximum principal amount	3,680,333	3,423,155
Weighted-average remaining maturity	14.5 years	15.3 years

[1] Relates to LTSPCs issued or modified on or after January 1, 2003.

Commitments

Farmer Mac enters into mandatory and optional delivery commitments to purchase loans. Most loan purchase commitments entered into by Farmer Mac are mandatory commitments, in which Farmer Mac charges a fee to extend or cancel the commitment. As of December 31, 2023 and 2022, commitments to purchase Agricultural Finance loans and USDA Guarantees totaled $31.0 million and $9.9 million, respectively, all of which were mandatory commitments. Farmer Mac also has unfunded commitments and letters of credit under which Farmer Mac earns a nominal fee for the obligation to provide funding at a future date. As of December 31, 2023 and 2022, Farmer Mac had $261.2 million and $130.2 million of these unfunded commitments and letters of credit under the Agricultural Finance and Rural Infrastructure lines of business. Any optional loan purchase commitments are sold forward under optional commitments to deliver Farmer Mac Guaranteed Securities that may be canceled by Farmer Mac without penalty.

Reserve for Losses - LTSPCs and Farmer Mac Guaranteed Securities

The following table is a summary, by asset type, of the reserve for losses as of December 31, 2023 and 2022:

Table 12.6

	December 31, 2023	December 31, 2022
	Reserve for Losses	Reserve for Losses
	(in thousands)	
Agricultural Finance	$ 1,471	$ 819
Rural Infrastructure Finance	240	614
Total	$ 1,711	$ 1,433

The following is a summary of the changes in the reserve for losses for the three-year period ended December 31, 2023:

Table 12.7

	Agricultural Finance loans	Rural Infrastructure Finance loans
	Reserve for Losses	Reserve for Losses
	(in thousands)	
Balance as of December 31, 2020[(1)]	$ 2,097	$ 1,180
Release of losses	(1,029)	(298)
Balance as of December 31, 2021	$ 1,068	$ 882
Release of losses	(249)	(268)
Balance as of December 31, 2022	$ 819	$ 614
Release of losses	652	(374)
Balance as of December 31, 2023	$ 1,471	$ 240

(1) Reserve for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," in first quarter 2020.

The provision for the reserve for losses in the Agricultural Finance LTSPC portfolio recorded during the year ended December 31, 2023 was primarily due to an updated estimate of expected losses based on additional available industry data. The release from the reserve for losses in the Rural Infrastructure Finance LTSPC portfolio recorded during the year ended December 31, 2023 was primarily due to an updated estimate of expected losses based on additional available loss-given-default industry data.

The release from the reserve for losses in the Rural Infrastructure Finance LTSPC portfolio recorded during the year ended December 31, 2022 was primarily due to decreased volume and ratings upgrades. The release from the reserve for losses in the Agricultural Finance LTSPC portfolio was primarily due to ratings upgrades.

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 year ended December 31, 2021 was primarily due to improving economic factor forecasts and ratings upgrades.

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 December 31, 2023 and 2022:

Table 12.8

	As of December 31, 2023					
	Current	30-59 Days	60-89 Days	90 Days and Greater[(1)]	Total Past Due	Total Loans
	(in thousands)					
Agricultural Finance:	$ 3,390,918	$ 2,776	$ 2,366	$ 1,784	$ 6,926	$ 3,397,844
Rural Infrastructure Finance:	535,013	—	—	—	—	535,013
Total	$ 3,925,931	$ 2,776	$ 2,366	$ 1,784	$ 6,926	$ 3,932,857

(1) Includes loans underlying off-balance sheet Farmer Mac 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, 2022					
	Current	30-59 Days	60-89 Days	90 Days and Greater[(1)]	Total Past Due	Total Loans
	(in thousands)					
Agricultural Finance:	$ 3,174,939	$ 11,614	$ 622	$ 3,817	$ 16,053	$ 3,190,992
Rural Infrastructure Finance:	523,192	—	—	—	—	523,192
Total	$ 3,698,131	$ 11,614	$ 622	$ 3,817	$ 16,053	$ 3,714,184

(1) Includes loans underlying off-balance sheet Farmer Mac 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 December 31, 2023 and 2022, by year of origination:

Table 12.9

	As of December 31, 2023							
	Year of Origination:							
	2023	2022	2021	2020	2019	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance:								
Internally Assigned Risk Rating:								
Acceptable	$ 169,429	$ 246,441	$ 515,396	$ 534,395	$ 264,815	$1,185,811	$ 391,335	$3,307,622
Special mention(1)	—	71	2,466	872	531	44,631	8,565	57,136
Substandard(2)	—	—	—	131	1,536	26,328	5,091	33,086
Total	$ 169,429	$ 246,512	$ 517,862	$ 535,398	$ 266,882	$1,256,770	$ 404,991	$3,397,844
For the Year Ended December 31, 2023:								
Current period 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, 2023							
	Year of Origination:							
	2023	2022	2021	2020	2019	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Rural Infrastructure Finance:								
Internally Assigned Risk Rating:								
Acceptable	$ —	$ —	$ —	$ —	$ —	$ 419,190	$ 115,823	$ 535,013
Special mention(1)	—	—	—	—	—	—	—	—
Substandard(2)	—	—	—	—	—	—	—	—
Total	$ —	$ —	$ —	$ —	$ —	$ 419,190	$ 115,823	$ 535,013
For the Year Ended December 31, 2023:								
Current period 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, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Agricultural Finance:								
Internally Assigned Risk Rating:								
Acceptable	$ 202,998	$ 496,269	$ 535,798	$ 254,293	$ 207,379	$1,107,834	$ 296,508	$3,101,079
Special mention[1]	—	1,319	1,778	—	1,198	42,680	3,205	50,180
Substandard[2]	—	—	176	—	3,588	32,597	3,372	39,733
Total	$ 202,998	$ 497,588	$ 537,752	$ 254,293	$ 212,165	$1,183,111	$ 303,085	$3,190,992
For the Year Ended December 31, 2022:								
Current period 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, 2022							
	Year of Origination:							
	2022	2021	2020	2019	2018	Prior	Revolving Loans - Amortized Cost Basis	Total
	(in thousands)							
Rural Infrastructure Finance:								
Internally Assigned Risk Rating:								
Acceptable	$ —	$ —	$ —	$ —	$ —	$ 470,659	$ 52,533	$ 523,192
Special mention[1]	—	—	—	—	—	—	—	—
Substandard[2]	—	—	—	—	—	—	—	—
Total	$ —	$ —	$ —	$ —	$ —	$ 470,659	$ 52,533	$ 523,192
For the Year Ended December 31, 2022:								
Current period 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.

13. 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 December 31, 2023 and 2022, respectively, and indicate the fair value hierarchy of the valuation techniques used by Farmer Mac to determine such fair value:

Table 13.1

Assets and Liabilities Measured at Fair Value as of December 31, 2023

	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	$ —	$ —	$ 19,082	$ 19,082
Floating rate Government/GSE guaranteed mortgage-backed securities	—	2,424,434	—	2,424,434
Fixed rate GSE guaranteed mortgage-backed securities	—	1,569,615	—	1,569,615
Floating rate U.S. Treasuries	49,968	—	—	49,968
Fixed rate U.S. Treasuries	855,832	—	—	855,832
Total Available-for-sale Investment Securities	905,800	3,994,049	19,082	4,918,931
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	5,522,712	5,522,712
Farmer Mac Guaranteed Securities	—	—	9,767	9,767
Total Farmer Mac Guaranteed Securities	—	—	5,532,479	5,532,479
USDA Securities:				
Trading	—	—	1,241	1,241
Total USDA Securities	—	—	1,241	1,241
Financial derivatives	11	37,467	—	37,478
Guarantee Asset	—	—	5,831	5,831
Total Assets at fair value	$ 905,811	$ 4,031,516	$ 5,558,633	$ 10,495,960
Liabilities:				
Financial derivatives	$ 91	$ 117,040	$ —	$ 117,131
Total Liabilities at fair value	$ 91	$ 117,040	$ —	$ 117,131

[1] Level 3 assets represent 19% of total assets and 52% of financial instruments measured at fair value.

Assets and Liabilities Measured at Fair Value as of December 31, 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	$ —	$ —	$ 19,027	$ 19,027
Floating rate Government/GSE guaranteed mortgage-backed securities	—	2,392,540	—	2,392,540
Fixed rate GSE guaranteed mortgage-backed securities	—	1,048,386	—	1,048,386
Fixed rate U.S. Treasuries	1,119,611	—	—	1,119,611
Total Available-for-sale Investment Securities	1,119,611	3,440,926	19,027	4,579,564
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	7,599,379	7,599,379
Farmer Mac Guaranteed Securities	—	—	7,847	7,847
Total Farmer Mac Guaranteed Securities	—	—	7,607,226	7,607,226
USDA Securities:				
Trading	—	—	1,767	1,767
Total USDA Securities	—	—	1,767	1,767
Financial derivatives	—	37,409	—	37,409
Guarantee Asset	—	—	4,467	4,467
Total Assets at fair value	$ 1,119,611	$ 3,478,335	$ 7,632,487	$ 12,230,433
Liabilities:				
Financial derivatives	$ 142	$ 175,184	$ —	$ 175,326
Total Liabilities at fair value	$ 142	$ 175,184	$ —	$ 175,326

(1) Level 3 assets represent 28% 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 December 31, 2023 or 2022.

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 years ended December 31, 2023 and 2022, 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 years ended December 31, 2023, 2022, and 2021.

Table 13.2

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2023

	Beginning Balance	Purchases	Settlements	Allowance for Losses	Realized and unrealized (losses)/ gains included in Income	Unrealized gains included in Other Comprehensive Income	Transfers Out[1]	Ending Balance
					(in thousands)			
Recurring:								
Assets:								
Investment Securities:								
Available-for-sale:								
Floating rate auction-rate certificates backed by Government guaranteed student loans	$ 19,027	$ —	$ —	$ 6	$ —	$ 49	$ —	$ 19,082
Total available-for-sale	19,027	—	—	6	—	49	—	19,082
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	7,599,379	2,084,650	(1,561,507)	230	89,629	(5,573)	(2,684,096)	5,522,712
Farmer Mac Guaranteed Securities	7,847	—	(1,213)	—	—	3,133	—	9,767
Total available-for-sale	7,607,226	2,084,650	(1,562,720)	230	89,629	(2,440)	(2,684,096)	5,532,479
USDA Securities:								
Trading	1,767	—	(550)	—	24	—	—	1,241
Total USDA Securities	1,767	—	(550)	—	24	—	—	1,241
Guarantee and commitment obligations:								
Guarantee Asset	4,467	—	(590)	—	1,954	—	—	5,831
Total Guarantee and commitment obligations	4,467	—	(590)	—	1,954	—	—	5,831
Total Assets at fair value	$7,632,487	$2,084,650	$(1,563,860)	$ 236	$ 91,607	$ (2,391)	$(2,684,096)	$ 5,558,633

[1] Includes $2.7 billion of AgVantage Securities transferred from available-for-sale to held-to-maturity on July 1, 2023.

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2022

	Beginning Balance	Purchases	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	$ —	$ —	$ 19	$ —	$ (246)	$ 19,027
Total available-for-sale	19,254	—	—	19	—	(246)	19,027
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	6,316,145	3,411,665	(1,526,303)	(283)	(552,907)	(48,938)	7,599,379
Farmer Mac Guaranteed Securities	12,414	—	(1,675)	—	—	(2,892)	7,847
Total available-for-sale	6,328,559	3,411,665	(1,527,978)	(283)	(552,907)	(51,830)	7,607,226
USDA Securities:							
Trading	4,401	—	(2,583)	—	(51)	—	1,767
Total USDA Securities	4,401	—	(2,583)	—	(51)	—	1,767
Guarantee and commitment obligations:							
Guarantee Asset	6,237	—	(903)	—	(867)	—	4,467
Total Guarantee and commitment obligations	6,237	—	(903)	—	(867)	—	4,467
Total Assets at fair value	$ 6,358,451	$3,411,665	$(1,531,464)	$ (264)	$ (553,825)	$ (52,076)	$ 7,632,487

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2021

	Beginning Balance	Purchases	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	$ —	$ —	$ (16)	$ —	$ 99	$ 19,254
Total available-for-sale	19,171	—	—	(16)	—	99	19,254
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	6,947,701	1,143,115	(1,614,598)	47	(176,064)	15,944	6,316,145
Farmer Mac Guaranteed Securities	—	12,560	(263)	—	—	117	12,414
Total available-for-sale	6,947,701	1,155,675	(1,614,861)	47	(176,064)	16,061	6,328,559
USDA Securities:							
Trading	6,695	—	(2,178)	—	(116)	—	4,401
Total USDA Securities	6,695	—	(2,178)	—	(116)	—	4,401
Guarantee and commitment obligations:							
Guarantee Asset	—	6,237	—	—	—	—	6,237
Total Guarantee and commitment obligations	—	6,237	—	—	—	—	6,237
Total Assets at fair value	$ 6,973,567	$1,161,912	$(1,617,039)	$ 31	$ (176,180)	$ 16,160	$ 6,358,451

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 December 31, 2023 and 2022:

Table 13.3

	As of December 31, 2023			
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	$ 19,082	Indicative bids	Range of broker quotes	97.0% - 97.0% (97.0%)
Farmer Mac Guaranteed Securities:				
AgVantage	$ 5,522,712	Discounted cash flow	Discount rate	4.7% - 5.4% (5.0%)
Farmer Mac Guaranteed Securities	$ 9,767	Discounted cash flow	Discount rate	8.3%
			CPR	3%
USDA Securities	$ 1,241	Discounted cash flow	Discount rate	5.4% - 5.4% (5.4%)
			CPR	12% - 12% (12%)
Guarantee Asset	$ 5,831	Discounted cash flow	Discount rate	8.3%
			CPR	3%

	As of December 31, 2022			
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	$ 19,027	Indicative bids	Range of broker quotes	96.8% - 96.8% (96.8%)
Farmer Mac Guaranteed Securities:				
AgVantage	$ 7,599,379	Discounted cash flow	Discount rate	4.7% - 6.1% (5.1%)
Farmer Mac Guaranteed Securities	$ 7,847	Discounted cash flow	Discount rate	4.8% - 5.3% (5.1%)
			CPR	8%
USDA Securities	$ 1,767	Discounted cash flow	Discount rate	5.1% - 5.7% (5.3%)
			CPR	19% - 27% (25%)
Guarantee Asset	$ 4,467	Discounted cash flow	Discount rate	5.4% - 5.9% (5.7%)
			CPR	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. CPR 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 December 31, 2023 and 2022:

Table 13.4

	As of December 31, 2023		As of December 31, 2022	
	Fair Value	Carrying Amount	Fair Value	Carrying Amount
	(in thousands)			
Financial assets:				
Cash and cash equivalents	$ 888,707	$ 888,707	$ 861,002	$ 861,002
Investment securities	4,981,249	4,979,504	4,630,701	4,628,268
Farmer Mac Guaranteed Securities	9,710,074	9,745,548	8,573,781	8,628,380
USDA Securities	2,036,046	2,355,412	2,099,445	2,411,601
Loans	10,426,021	11,039,349	9,666,710	10,205,466
Financial derivatives	37,478	37,478	37,409	37,409
Guarantee and commitment fees receivable	58,465	49,832	50,653	47,151
Financial liabilities:				
Notes payable	25,670,971	26,336,542	23,591,330	24,469,113
Debt securities of consolidated trusts held by third parties	1,268,563	1,351,069	1,106,837	1,181,948
Financial derivatives	117,131	117,131	175,326	175,326
Guarantee and commitment obligations	56,195	47,563	50,083	46,582

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 the market standard methodology of netting the discounted future fixed cash payments (or receipts) and the discounted expected variable cash receipts (or payments) 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.

14. 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 years ended December 31, 2023, 2022, and 2021.

Table 14.1

Core Earnings by Business Segment

For the Year Ended December 31, 2023

	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	$ 137,079	$ 31,224	$ 25,187	$ 4,648	$ 128,415	$ 994	$ —	$ —	$ 327,547
Less: reconciling adjustments(1)(2)(3)	(4,179)	—	(168)	—	3,594	186	—	567	—
Net effective spread	132,900	31,224	25,019	4,648	132,009	1,180	—	567	—
Guarantee and commitment fees	17,415	283	1,133	97	—	—	—	(2,216)	16,712
Other income/(expense)(3)	2,952	35	—	—	3	29	280	3,778	7,077
Total revenues	153,267	31,542	26,152	4,745	132,012	1,209	280	2,129	351,336
Release of/(provision for) losses	145	(207)	(581)	(219)	—	4	—	—	(858)
(Provision for)/release of reserve for losses	(652)	—	374	—	—	—	—	—	(278)
Operating expenses	—	—	—	—	—	—	(97,099)	—	(97,099)
Total non-interest expense	(652)	—	374	—	—	—	(97,099)	—	(97,377)
Core earnings before income taxes	152,760	31,335	25,945	4,526	132,012	1,213	(96,819)	2,129 (4)	253,101
Income tax (expense)/benefit	(32,079)	(6,581)	(5,449)	(951)	(27,721)	(255)	20,385	(447)	(53,098)
Core earnings before preferred stock dividends	120,681	24,754	20,496	3,575	104,291	958	(76,434)	1,682 (4)	200,003
Preferred stock dividends	—	—	—	—	—	—	(27,165)	—	(27,165)
Segment core earnings/(losses)	$ 120,681	$ 24,754	$ 20,496	$ 3,575	$ 104,291	$ 958	$(103,599)	$ 1,682 (4)	$ 172,838
Total Assets	$15,052,606	$1,566,906	$7,002,620	$ 443,772	$ —	$ 5,342,089	$ 116,389	$ —	$ 29,524,382
Total on- and off-balance sheet program assets at principal balance	$18,808,801	$1,693,979	$7,480,723	$ 487,521	$ —	$ —	$ —	$ —	$ 28,471,024

(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 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 Year Ended December 31, 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	$ 133,218	$ 29,209	$ 16,175	$ 2,483	$ 96,613	$ (6,758)	$ —	$ —	$ 270,940
Less: reconciling adjustments(1)(2)(3)	(4,161)	—	(103)	—	(11,147)	—	—	15,411	—
Net effective spread	129,057	29,209	16,072	2,483	85,466	(6,758)	—	15,411	—
Guarantee and commitment fees	16,718	139	1,238	49	—	—	—	(5,104)	13,040
Other income/ (expense)(3)	1,420	261	—	—	—	—	3	23,447	25,131
Total revenues	147,195	29,609	17,310	2,532	85,466	(6,758)	3	33,754	309,111
(Provision for)/release of losses	(1,463)	(2,136)	2,751	(494)	—	19	—	—	(1,323)
Release of reserve for losses	247	—	270	—	—	—	—	—	517
Operating expenses	(819)	—	—	—	—	—	(81,807)	—	(82,626)
Total non-interest expense	(572)	—	270	—	—	—	(81,807)	—	(82,109)
Core earnings before income taxes	145,160	27,473	20,331	2,038	85,466	(6,739)	(81,804)	33,754 (4)	225,679
Income tax (expense)/ benefit	(30,482)	(5,768)	(4,268)	(428)	(17,949)	1,416	17,033	(7,089)	(47,535)
Core earnings before preferred stock dividends	114,678	21,705	16,063	1,610	67,517	(5,323)	(64,771)	26,665 (4)	178,144
Preferred stock dividends	—	—	—	—	—	—	(27,165)	—	(27,165)
Segment core earnings/(losses)	$ 114,678	$ 21,705	$ 16,063	$ 1,610	$ 67,517	$ (5,323)	$ (91,936)	$ 26,665 (4)	$ 150,979
Total Assets	$14,623,596	$1,541,151	$5,867,517	$ 219,609	$ —	$ 4,806,010	$ 275,227	$ —	$ 27,333,110
Total on- and off-balance sheet program assets at principal balance	$17,728,792	$1,603,507	$6,359,613	$ 230,170	$ —	$ —	$ —	$ —	$ 25,922,082

(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 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 Year Ended December 31, 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	$ 118,289	$ 27,081	$ 8,224	$ 1,219	$ 66,581	$ 557	$ —	$ —	$ 221,951
Less: reconciling adjustments(1)(2)(3)	(4,753)	—	(157)	—	3,627	—	—	1,283	—
Net effective spread	113,536	27,081	8,067	1,219	70,208	557	—	1,283	—
Guarantee and commitment fees	16,178	48	1,287	20	—	—	—	(4,864)	12,669
Gain on sale of mortgage loans	6,539	—	—	—	—	—	—	—	6,539
Other income/ (expense)(3)	1,966	—	5	—	—	—	(291)	851	2,531
Total revenues	138,219	27,129	9,359	1,239	70,208	557	(291)	(2,730)	243,690
Release of/(provision for) losses	1,574	(210)	(291)	(198)	—	(15)	—	—	860
Release of reserve for losses	1,034	—	293	—	—	—	—	—	1,327
Operating expenses	—	—	—	—	—	—	(73,416)	—	(73,416)
Total non-interest expense	1,034	—	293	—	—	—	(73,416)	—	(72,089)
Core earnings before income taxes	140,827	26,919	9,361	1,041	70,208	542	(73,707)	(2,730) (4)	172,461
Income tax (expense)/ benefit	(29,574)	(5,653)	(1,965)	(219)	(14,744)	(114)	15,325	572	(36,372)
Core earnings before preferred stock dividends	111,253	21,266	7,396	822	55,464	428	(58,382)	(2,158) (4)	136,089
Preferred stock dividends	—	—	—	—	—	—	(24,677)	—	(24,677)
Segment core earnings/(losses)	$ 111,253	$ 21,266	$ 7,396	$ 822	$ 55,464	$ 428	$ (83,059)	$ (2,158) (4)	$ 111,412
Total Assets	$13,112,193	$1,507,848	$5,344,707	$ 87,553	$ —	$ 5,012,827	$ 55,881	$ —	$ 25,121,009
Total on- and off-balance sheet program assets at principal balance	$16,094,640	$1,537,834	$5,895,226	$ 86,763	$ —	$ —	$ —	$ —	$ 23,614,463

(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 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 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. 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 Annual Report on Form 10-K, 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 December 31, 2023.

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 December 31, 2023.

Management's Report on Internal Control Over Financial Reporting. See "Financial Statements—Management's Report on Internal Control Over Financial Reporting" in Item 8 of this Annual Report on Form 10-K.

Attestation Report of Independent Registered Public Accounting Firm. See "Financial Statements—Report of Independent Registered Public Accounting Firm" in Item 8 of this Annual Report on Form 10-K.

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 December 31, 2023 that have materially affected, or are reasonably likely to materially affect, Farmer Mac's internal control over financial reporting.

Item 9B. Other Information

Director and Officer Trading Arrangements

None of Farmer Mac's directors or executive officers (as defined in Rule 16a-1(f) under the Exchange Act) adopted or terminated a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement (as defined in Item 408(c) of Regulation S-K) during the three months ended December 31, 2023.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not Applicable.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

The information required by this Item is incorporated by reference to Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024.

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is incorporated by reference to Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required by this Item is incorporated by reference to Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024.

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated by reference to Farmer Mac's definitive proxy statement to be filed on or about April 17, 2024.

PART IV

Item 15. Exhibits and Financial Statement Schedules

a. (1) Financial Statements.

Refer to Item 8 above.

(2) Financial Statement Schedules.

There are no schedules because they are not applicable, not required, or the information required to be set forth therein is included in the consolidated financial statements or in notes thereto.

*	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 3.2 to Form 10-K filed February 24, 2023).
*	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		Employment Agreement dated as of October 15, 2018 between Bradford T. Nordholm and the Registrant (Previously filed as Exhibit 10.1 to Form 8-K filed October 1, 2019).
†*	10.1.1		First Amendment to Amended Employment Agreement dated as of September 28, 2022 between Bradford T. Nordholm and the Registrant (Previously filed as Exhibit 10.1 to Form 8-K filed October 4, 2022).
†*	10.2		Form of Time-Based Restricted Stock Units Award Agreement for grants made to executive officers on or after March 2, 2021. (Previously filed as Exhibit 10.1 to Form 8-K filed March 8, 2021).
†*	10.2.1		Form of Time-Based Restricted Stock Units Award Agreement for grants made to directors on or after March 2, 2021 (Previously filed as Exhibit 10.2 to Form 8-K filed March 8, 2021).
†*	10.2.2		Amended and Restated 2008 Omnibus Incentive Plan (Previously filed as Exhibit 10.2 to Form 10-Q filed August 9, 2018).
†*	10.2.3		Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made from April 1, 2013 to March 31, 2015 (Previously filed as Exhibit 10.1 to Form 8-K filed April 5, 2013).
†*	10.2.4		Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made on or after April 1, 2015 (Previously filed as Exhibit 10.1 to Form 8-K filed on April 3, 2015).
†*	10.3		Federal Agricultural Mortgage Corporation Amended and Restated Executive Officer Severance Plan (effective January 16, 2020) (Previously filed as Exhibit 10.1 to Form 8-K filed January 23, 2020).
†*	10.4		Form of Participation Agreement to the Federal Agricultural Mortgage Corporation Amended and Restated Executive Officer Severance Plan (effective January 16, 2020) (Previously filed as Exhibit 10.2 to Form 8-K filed January 23, 2020).
†*	10.5		Nonqualified Deferred Compensation Plan (effective May 1, 2017) (Previously filed as Exhibit 10.2 to Form 10-Q filed May 10, 2017).
†*	10.6		Adoption Agreement of the Nonqualified Deferred Compensation Plan (effective May 1, 2017) (Previously filed as Exhibit 10.3 to Form 10-Q filed May 10, 2017).
†**	10.7		Amended Adoption Agreement of the Nonqualified Deferred Compensation Plan, effective November 15, 2023.
†*	10.8		Form of Indemnification Agreement for Directors (Previously filed as Exhibit 10.1 to Form 8-K filed April 9, 2008).
†**	10.9		Description of compensation agreement between the Registrant and its directors, effective January 1, 2024.

*#	10.10		Amended and Restated Master Central Servicing Agreement between Zions First National Bank and the Registrant, dated as of May 1, 2004 (Previously filed as Exhibit 10.11.2 to Form 10-Q filed August 9, 2004).
*	10.10.1		Amendment No. 1 to Amended and Restated Master Central Servicing Agreement between Zions First National Bank and the Registrant, dated as of June 1, 2009 (Previously filed as Exhibit 10.11.1 to Form 10-Q filed August 10, 2009).
*	10.10.2		Amendment No. 2 to Amended and Restated Master Central Servicing Agreement between Zions First National Bank and the Registrant, dated as of August 25, 2010 (Previously filed as Exhibit 10.11.2 to Form 10-Q filed November 9, 2010).
*	10.11		Amended and Restated Note Purchase Agreement between Farmer Mac Mortgage Securities Corporation, National Rural Utilities Cooperative Finance Corporation, and the Registrant, dated as of March 24, 2011 (Previously filed as Exhibit 10.22 to Form 10-Q filed May 10, 2011).
*	10.11.1		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 January 8, 2015 (Previously filed as Exhibit 10.1 to Form 8-K filed January 13, 2015).
*	10.11.2		Second 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 February 26, 2018 (Previously filed as Exhibit 10.1 to Form 10-Q filed May 10, 2018).
*	10.11.3		Third 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 May 20, 2021 (Previously filed as Exhibit 10.1 to Form 8-K filed May 20, 2021).
*	10.11.4		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).
*	10.12		Amended and Restated Master Sale and Servicing Agreement between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of August 12, 2011 (Previously filed as Exhibit 10.26 to Form 10-Q filed November 9, 2011).
*	10.12.1		Amendment No. 1 to Amended and Restated Master Sale and Servicing Agreement between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of November 28, 2016 (Previously filed as Exhibit 10.17 to Form 10-K filed March 9, 2017)
*	10.13		Second Amended, Restated and Consolidated Pledge Agreement between Farmer Mac Mortgage Securities Corporation, National Rural Utilities Cooperative Finance Corporation, U.S. Bank National Association, and the Registrant, dated as of July 31, 2015 (Previously filed as Exhibit 10.3 to Form 10-Q filed November 9, 2015).
*	10.14		Long Term Standby Commitment to Purchase between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of August 31, 2015 (Previously filed as Exhibit 10.4 to Form 10-Q filed November 9, 2015).
*	10.14.1		Amendment No. 1 to Long Term Standby Commitment to Purchase between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of May 31, 2016 (Previously filed as Exhibit 10.1 to Form 10-Q filed August 9, 2016).
*	10.15		Loan Participation Servicing Agreement between National Rural Utilities Cooperative Finance Corporation, National Cooperative Services Corporation, and the Registrant, dated as of September 26, 2019 (Previously filed as Exhibit 10 to Form 8-K filed October 9, 2019).
*	10.16		Master Non-Recourse Loan Participation Agreement between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of February 3, 2020 (Previously filed as Exhibit 10.1 to Form 8-K filed February 7, 2020).
*	10.17		Loan Participation and Servicing Agreement between National Rural Utilities Cooperative Finance Corporation and the Registrant, dated as of February 3, 2020 (Previously filed as Exhibit 10.2 to Form 8-K filed February 7, 2020).
*	10.18		Master Non-Recourse Loan Participation Agreement between CoBank, ACB, CoBank, FCB, and the Registrant, dated as of February 13, 2019 (Previously filed as Exhibit 10.1 to Form 8-K filed February 20, 2019).
*	10.19		Loan Participation and Servicing Agreement between CoBank, ACB and the Registrant, dated as of February 13, 2019 (Previously filed as Exhibit 10.2 to Form 8-K filed February 20, 2019).
*	21		List of the Registrant's subsidiaries (Previously filed as Exhibit 21 to Form 10-K filed March 8, 2018).
**	31.1	—	Certification of Registrant's principal executive officer relating to the Registrant's Quarterly Report on Form 10-K for the year ended December 31, 2023, 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-K for the year ended December 31, 2023, 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-K for the year ended December 31, 2023, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
**	97.1	—	Policy relating to recovery of erroneously awarded compensation, as required by applicable listing standards adopted pursuant to 17 CFR 240.10D-1
**	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.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION

/s/ Bradford T. Nordholm	February 23, 2024
By: Bradford T. Nordholm President and Chief Executive Officer (Principal Executive Officer)	

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Name	Title	Date
/s/ Lowell L. Junkins Lowell L. Junkins	Chair of the Board of Directors	February 23, 2024
/s/ Bradford T. Nordholm Bradford T. Nordholm	President and Chief Executive Officer (Principal Executive Officer)	February 23, 2024
/s/ Aparna Ramesh Aparna Ramesh	Executive Vice President – Chief Financial Officer and Treasurer (Principal Financial Officer)	February 23, 2024
/s/ Gregory N. Ramsey Gregory N. Ramsey	Vice President – Chief Accounting Officer (Principal Accounting Officer)	February 23, 2024

Name	Title	Date
/s/ Dennis L. Brack Dennis L. Brack	Director	February 23, 2024
/s/ Chester J. Culver Chester J. Culver	Director	February 23, 2024
/s/ Richard H. Davidson Richard H. Davidson	Director	February 23, 2024
/s/ Everett M. Dobrinski Everett M. Dobrinski	Director	February 23, 2024
/s/ James R. Engebretsen James R. Engebretsen	Director	February 23, 2024
/s/ Sara L. Faivre Sara L. Faivre	Director	February 23, 2024
/s/ Amy H. Gales Amy H. Gales	Director	February 23, 2024
/s/ Mitchell A. Johnson Mitchell A. Johnson	Director	February 23, 2024
/s/ Eric T. McKissack Eric T. McKissack	Director	February 23, 2024
/s/ Robert G. Sexton Robert G. Sexton	Director	February 23, 2024
/s/ Charles A. Stones Charles A. Stones	Director	February 23, 2024
/s/ Roy H. Tiarks Roy H. Tiarks	Director	February 23, 2024
/s/ Todd P. Ware Todd P. Ware	Director	February 23, 2024
/s/ LaJuana S. Wilcher LaJuana S. Wilcher	Director	February 23, 2024

CORPORATE INFORMATION

CORPORATE HEADQUARTERS
1999 K Street, N.W.
Fourth Floor
Washington, DC 20006
Phone: 202.872.7700
800.879.3276
Website: www.farmermac.com

STOCK EXCHANGE
Farmer Mac's Class A voting common stock and Class C non-voting common stock trade on the New York Stock Exchange under the symbols AGM.A and AGM, respectively.

AGM LISTED NYSE   AGM.A LISTED NYSE

ANNUAL MEETING OF STOCKHOLDERS
Thursday, May 16, 2024, 8:00 a.m. EDT
The New York Stock Exchange
18 Broad Street
New York, NY 10005
Dial-In: 800.836.8184
Webcast: www.farmermac.com/investors/events-presentations

Formal notice of the meeting, the proxy statement, and the proxy card are being mailed to each stockholder of record entitled to vote at the meeting simultaneously with the mailing of this Annual Report.

TRANSFER AGENT AND REGISTRAR
Equiniti Trust Company, LLC ("EQ")
48 Wall Street, Floor 23
New York, NY 10005
Phone: 800.937.5449
Email: helpast@equiniti.com
Website: equiniti.com/us/ast-access/

CERTIFICATION
Farmer Mac has included as Exhibit 31 to its Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed with the SEC the certifications of the Chief Executive Officer and Chief Financial Officer certifying the quality of Farmer Mac's financial disclosures.

FORM 10-K
Stockholders may obtain, without charge, a copy of Farmer Mac's 2023 Annual Report on Form 10-K, as filed with the SEC on February 23, 2024, from Farmer Mac's website or by contacting Farmer Mac's Secretary at Farmer Mac's Corporate Headquarters.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE YEAR ENDED DECEMBER 31, 2023
PricewaterhouseCoopers LLP
655 New York Avenue, N.W.
Washington, DC 20001

FARMER MAC

1999 K Street, N.W. • Fourth Floor • Washington, DC 20006
Phone: 202.872.7700 or 800.879.3276

www.farmermac.com

AGM.A LISTED NYSE

AGM LISTED NYSE