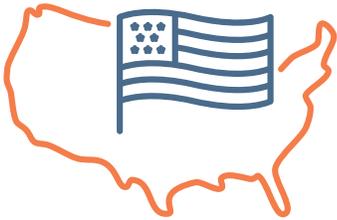
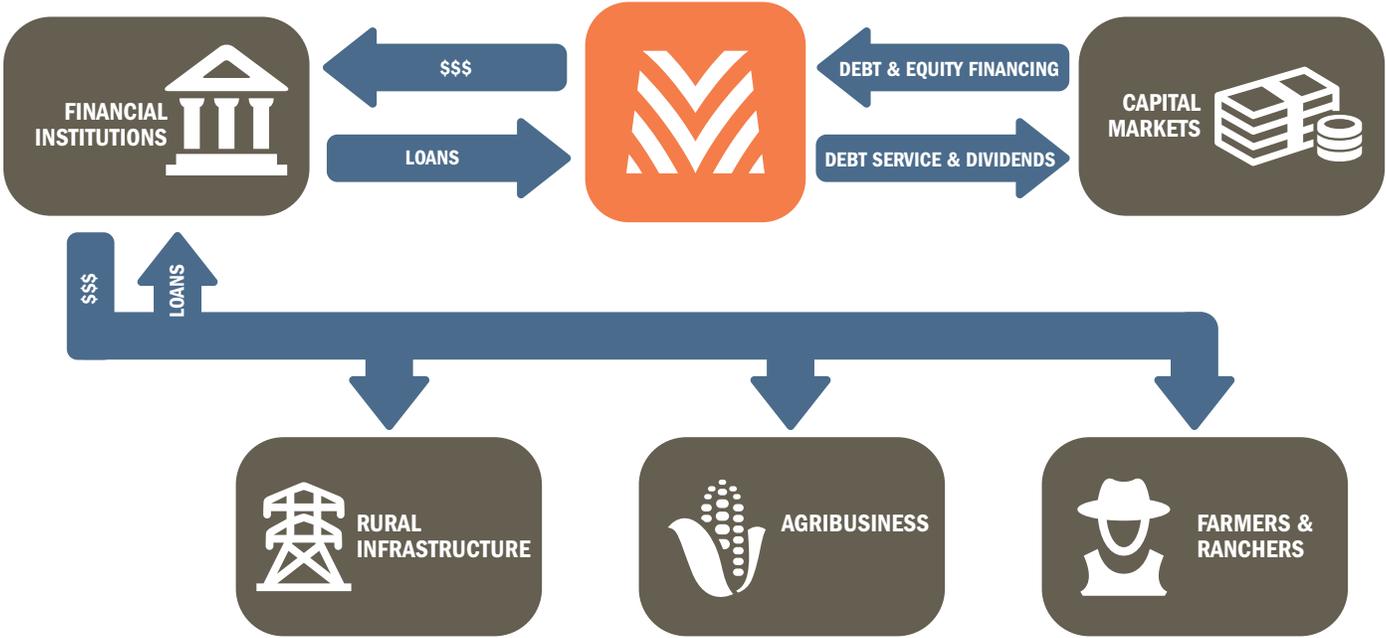


*Financing
Rural America*

FARMER  AC



FARMER MAC FINANCIAL ECOSYSTEM



WHO WE ARE

Farmer Mac is the secondary market for U.S. agricultural credit and has been a champion for and an integral part of this nation's rural economy for over 30 years. Guided by our mission—to help build a strong and vital rural America by increasing the availability and affordability of credit for the benefit of American agriculture and rural communities—we provide lenders access to flexible, competitive financing and effective risk management tools to help their farm, ranch, agricultural, and rural utilities customers.



BRADFORD T. NORDHOLM

President and Chief Executive Officer

LAJUANA S. WILCHER

Board Chair

LETTER FROM OUR CEO AND CHAIR

WHY MISSION MATTERS

This last year was exceptional in multiple ways. The impact of the ongoing pandemic, its resultant shutdowns and economic disruption, and social discontent boiling over into widespread protests all reflected a uniquely challenging year for America.

At Farmer Mac, we have often said that our priorities in such challenging times are the same as they are in the best of times. In fact, we believe that delivering on our mission—to help build a strong and vital rural America by increasing the availability and affordability of credit for the benefit of American agriculture and rural communities—is even more important in times of stress and economic uncertainties. As America’s secondary market for agricultural credit, we are a committed partner to our customers—the rural and agricultural lenders of America—helping to bring increased financial security, improved economic conditions, and new opportunities to farmers, ranchers, and rural residents and their communities.

We know with the benefit of hindsight that rural America has proved to be remarkably resilient in the face of the pandemic and that many of the worst-case scenarios facing these communities and the food supply chain did not broadly materialize. We are gratified to see that significant liquidity support by the Federal Reserve to facilitate the functioning of the capital markets, alongside government stimulus programs designed to mitigate the economic impacts of the pandemic, has reduced volatility to the economy, the sectors we serve, and the farmers and ranchers of America.



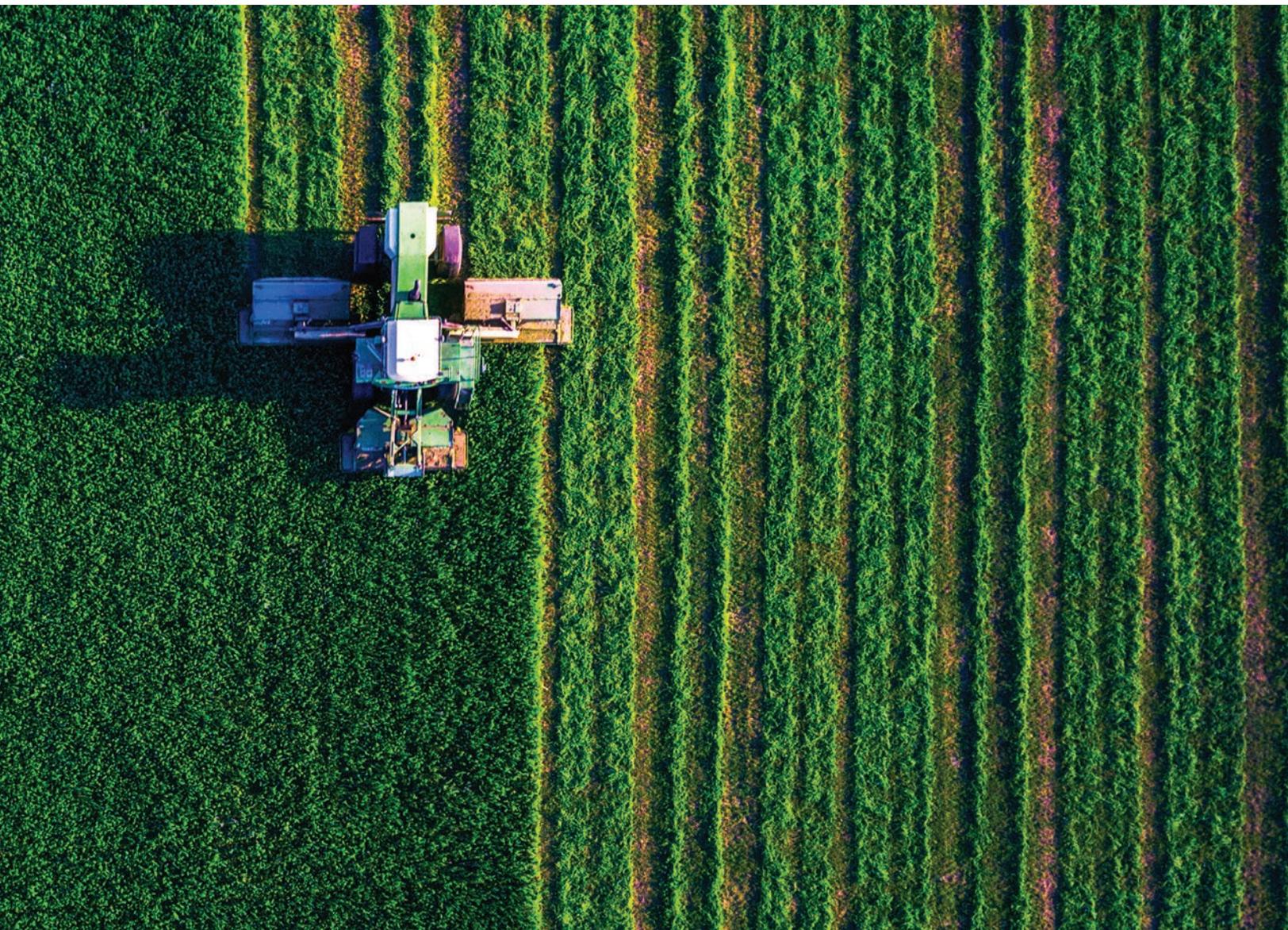
WEATHERING AND RESPONDING TO THE PANDEMIC

The rapid spread of the COVID-19 pandemic and the unknowns brought with it demanded a swift and comprehensive response. Farmer Mac knows that its role as a source of secondary market credit and liquidity for America's farmers and ranchers and the local financial institutions and rural utilities that serve them is especially important in times of uncertainty. Farmer Mac rose to the occasion, quickly rolling out new initiatives to support our employees while continuing to fulfill our mission to serve our customers in rural America in a safe and sound manner:

- *Farmer Mac acted quickly and early under its Business Continuity Plan and has been successfully operating fully remotely since March 12, 2020, without interruption or disruption of business operations. We supported our employees by providing resources to facilitate the transition to their new "home office" environment and instituted communication channels to enable connectivity, engagement, and timely information dissemination.*
- *We took significant steps to help our customers navigate the uncertainties that loomed in 2020 by extending our rate lock deadlines and waiving extension fees for loans submitted throughout most of the year.*
- *We also worked with our customers and loan servicers to help them provide flexibility and financial relief to their borrowers by facilitating COVID-19-related payment deferment requests. In 2020, we executed \$432.0 million in deferments of unpaid principal on Farm & Ranch loans, Farm & Ranch purchase commitments, and USDA guaranteed loans.*
- *We kept a close ear to the markets, enabling uninterrupted access to the debt capital markets and allowing us to maintain our disciplined asset liability management policies and practices and strong liquidity in our investment portfolio, as evidenced by our year-end cash position of \$1.0 billion.*



Rural America has proved to be remarkably resilient in the face of the pandemic



In light of all of the ups and downs this year brought with it, we are humbled to report that Farmer Mac achieved record results in 2020. This year's report will outline our commitment to a two-fold strategy: to enhance our infrastructure to elevate our lines of business and customer relationships, and to provide mission-critical capital to new and developing markets.

THE DIFFERENCE OUR MISSION MAKES

From our foundational lines of business, to opportunities to enter new and developing markets, we have made great strides in pursuit of our mission.

Farm & Ranch and USDA Guarantees

Our focus in our core, foundational lines of business—Farm & Ranch and USDA Guarantees—centers around strengthening our customer relationship capabilities, implementing a flexible and collaborative loan origination process, and providing competitively priced products to support the financial institutions we serve and their borrower relationships.

We have seen strong indications that the work we're doing to deepen our foundational business lines is paying off. In fact, these two lines of business

provided more mission-critical capital to farmers and ranchers in 2020 than in any other year in the company's history. In our Farm & Ranch line of business, new loan purchase volume was \$2.5 billion, roughly 82% greater than in 2019, meaning Farmer Mac was able to support our mission through an increase of \$1.1 billion in capital to agriculture and rural communities. In USDA Guarantees, our \$0.8 billion in new business volume was almost double our prior-year results.

In both business lines, we worked together with lenders to modify loans, providing borrowers access to important liquidity given the significant changes

in the economy and corresponding impacts to the agriculture communities. We know that being a flexible partner helps lenders support their borrowers and can lower the interest rates to farmers and ranchers in their communities. We approved 550 Farm & Ranch interest rate reductions in 2020 on \$491 million of total loan volume. The average interest rate savings was 0.94% per loan, for a total savings to farmers and ranchers of \$4.97 million in 2020. In USDA Guarantees, we approved 1,234 interest rate reductions on \$450 million of total loan volume. The average interest rate savings was 1.05% per loan, for a total savings to borrowers of \$4.70 million in 2020. Combined, that represents roughly



*We estimate that for **every \$1 saved** by a farmer or rancher, roughly **\$2 are invested** into local businesses, communities, and governments.*



one modification processed per hour of each business day of 2020. We know much of that savings gets reinvested in farm and ranch operations, in supplies and equipment, or spent on services in local communities. In fact, we estimate that for every \$1 saved by a farmer or rancher, roughly \$2 are invested into local businesses, communities, and governments.

Most of the customers we serve in our Farm & Ranch Loan Purchase and USDA Guarantees solutions are small to mid-size community banks that lend to owners of small to mid-size farms and ranches. But our reach and ability to improve conditions in rural America through these business lines is not limited to this core function. Our lending also reaches agribusinesses, such as a sugar processing facility that we helped a customer refinance in 2020. Facilities like these have local upstream benefits (in this case, buying sugar beets from local farmers) and nationwide downstream benefits, like helping to reduce the cost of sugar to consumers across America.

Our continued investment in providing a secondary market for USDA guaranteed loans also supports key USDA programs that provide demonstrable value to rural America. Loans guaranteed by the Farm Service Agency include those earmarked for first-time, minority, and other historically underserved classes of farmers and ranchers. Business & Industry guaranteed loans include community facilities and other non-agricultural loans that benefit rural communities, such as funding the construction of rural hotels and hospitals.

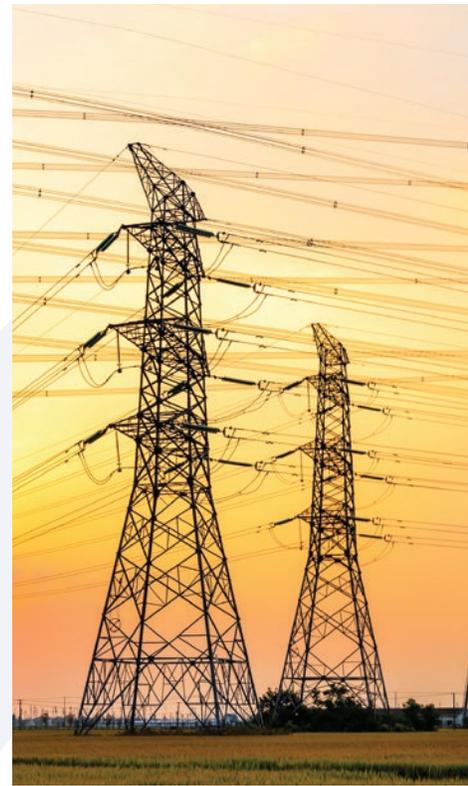
GREAT REIMAGINED

One major driver of our efforts to elevate our customers' experience has been a suite of system and product improvements we've been developing as part of our "Great Reimagined" initiative. We achieved major milestones in this initiative in 2020, starting with a launch early in the year of a new online portal for our customers to transact with us. The new portal, in addition to offering an elevated user experience and enhanced security, establishes the foundation upon which we will continue to build infrastructure enhancements that make Farmer Mac more efficient, effective, and easier to work with.

In the fall, we debuted another "Great Reimagined" product improvement by doubling the qualifying loan limits for two of our Farm & Ranch underwriting options—Fast Track and AgXpress. This enhancement allows for loans with low-risk profiles to quickly and easily get approved through a less stringent underwriting process, and has been met with considerable interest and acclaim from our customers. The AgXpress scorecard, our newest and fastest underwriting option, now allows for loans of up to \$1.5 million.

Teams from across the company continue to devote their time and resources towards our "Great Reimagined" initiatives. We look forward to announcing the implementation of more system and product improvements that will further elevate our customers' experience, our efficiency, and the strength of the valuable products we offer.





ENVIRONMENTAL, SOCIAL, AND GOVERNANCE

Farmer Mac's dedication to our mission—from how we operate in the markets to how we measure our success in helping rural America—is one way we try to be a conscientious company and look to ensure that we're not just good at what we do, but purposeful in how we do it. Another way we are looking to bolster our commitment to conducting our business sustainably and responsibly is by identifying and integrating Environmental, Social, and Governance ("ESG") objectives, for which we formed our internal ESG committee in March 2020. The Board approved Farmer Mac's first-ever ESG policy statement in November, intended to build towards enhanced communication of our ESG practices. We look forward to being able to share more about our progress in this initiative in the coming year.

Rural Infrastructure

Farmer Mac's focus in 2020 for our Rural Infrastructure line of business centered around developing our business relationships with existing eligible counterparties, finding new opportunities to expand our customer base, and exploring broadband-related capital expenditures and new types of loan products.

In 2020, we purchased \$744 million in new rural utilities loans, including \$64 million of renewable energy loans as part of Farmer Mac's renewable energy project finance strategic initiative. We also set a new annual volume record in electric generation and transmission deals and purchased our 1,000th rural infrastructure loan.

The mission-oriented impact of our Rural Infrastructure line of business is significant. Our financing activities increase the ability of generators and distributors of electricity to provide access to reliable, affordable power, which ultimately helps to keep the lights on throughout rural America. Our loan funds are used for capital expenditures by rural electric cooperatives, including installing and repairing critical infrastructure



to keep electricity flowing reliably. Farmer Mac's low-cost capital also helps rural electric cooperatives be able to afford to invest in their electrical systems, which may result in lower power rates charged to cooperative members/owners. Our portfolio serves 6.77 million customer accounts across 44 states, which we estimate helps to lower the cost of power and connectivity for about 17.6 million rural Americans.

Financing for renewable energy projects is an exciting new product line for Farmer Mac. These projects can provide rural communities with increased tax revenues, employment, and access to clean power that is increasingly cost competitive with other forms of generation. Farmer Mac has worked to develop new eligible counterparty relationships in this space, and the renewable energy project loans purchased in 2020 represent loans purchased from two new sellers and the expansion of another seller relationship into the project finance space.

Our financing of rural electric cooperatives also contributes to the installation of rural broadband—

a resource that is proving to be increasingly vital to small businesses, agribusinesses, and farm and ranch operations throughout rural America. Access to reliable broadband is not universal across America, nor is it an optional luxury; the pandemic has highlighted the need for reliable connections in rural America for schools and businesses alike to operate safely and effectively in a remote environment.

Institutional Credit

We continue to see significant liquidity support in the market as a direct result of the Federal Reserve's actions to continue to facilitate the functioning of the capital markets given economic uncertainties caused by the pandemic. This has caused investment-grade credit spreads for many of our large institutional counterparties to remain at historically low levels. While we may see some unwinding of incremental liquidity in our current Institutional Credit portfolio, we remain focused on cultivating and enhancing strategic relationships with our institutional counterparties and adding new customers.

We remained stalwart in our support of our institutional customers in 2020. We provided approximately \$250 million in liquidity to institutional customers through a very volatile capital markets environment during March of 2020. This liquidity support is a testament to Farmer Mac's ability and commitment to be competitive in price while also being effective in execution to meet the needs of our institutional customers. The Federal Reserve's market support ultimately resulted in significant available liquidity for institutional customers, which resulted in us not refinancing some maturing securities given current market pricing and return dynamics. As market conditions and credit spreads moderate over time, we expect to continue to broaden our relationships in this space.

We know that the appropriate deployment of capital is an important ingredient in serving this market—and our mission—in the long term. We remain determined to support our customers and their liquidity needs, and we are focused on providing new and innovative product solutions to help our customers manage growth, capital efficiency, and support of their borrowers in the sectors we serve.

2020 FINANCIAL RESULTS

Throughout 2020, we entered new markets, enriched existing relationships across several business lines, and demonstrated some of the tangible benefits our flexible products and solutions bring to our customers, their borrowers, and rural communities across America. Farmer Mac produced total revenues of \$218.8 million and non-GAAP core earnings of \$100.6 million, increases of 14% and 7%, respectively, over prior year results. We added \$0.8 billion of net new business volume during the year, bringing our total outstanding business volume to \$21.9 billion at the end of 2020.

Another important validation of our growth objectives has been a year of record financial results for the company. Amidst a year of exceptional uncertainties, Farmer Mac delivered record earnings growth, record net effective spread, stable operating expense ratios, and healthy credit metrics. We see our performance as a reflection of our resilience, our business model, the innovative implementation of our strategy, and the talent and diligence of our employees, leadership, and Board.



Net effective spread (a non-GAAP measure) increased \$28.3 million to a record \$197.0 million in 2020, reflecting our strong new business volume. Our net effective spread in percentage terms gradually increased each quarter to 0.93% in 2020 compared to 0.91% in 2019, as we benefited from effective use of our callable debt instruments and are beginning to see a shift in the composition of our portfolio towards higher spread loan purchase products.

Our access to the capital markets remained strong throughout the unprecedented year, as we issued different debt structures daily across various tenors out to 30 years and continued to maintain our disciplined asset-liability-management policies and practices. We have a broad and diverse set of debt investors, and our deep relationships with them help ensure strong and reliable access to the capital markets. These relationships also help to benefit rural America. It is noteworthy that, in many cases, the interest earned on the debt we issue is used by investors across the country to improve their local communities.

CORE EARNINGS*



NET EFFECTIVE SPREAD*

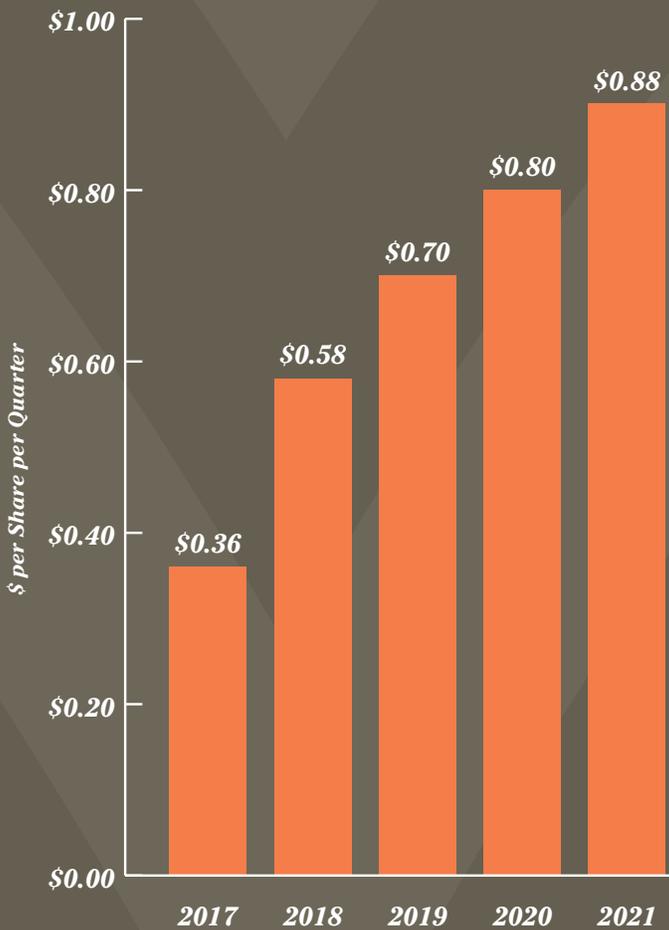


* Core earnings and net effective spread are non-GAAP measures. For a reconciliation of core earnings to GAAP net income and net effective spread to GAAP net interest income, please refer to “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

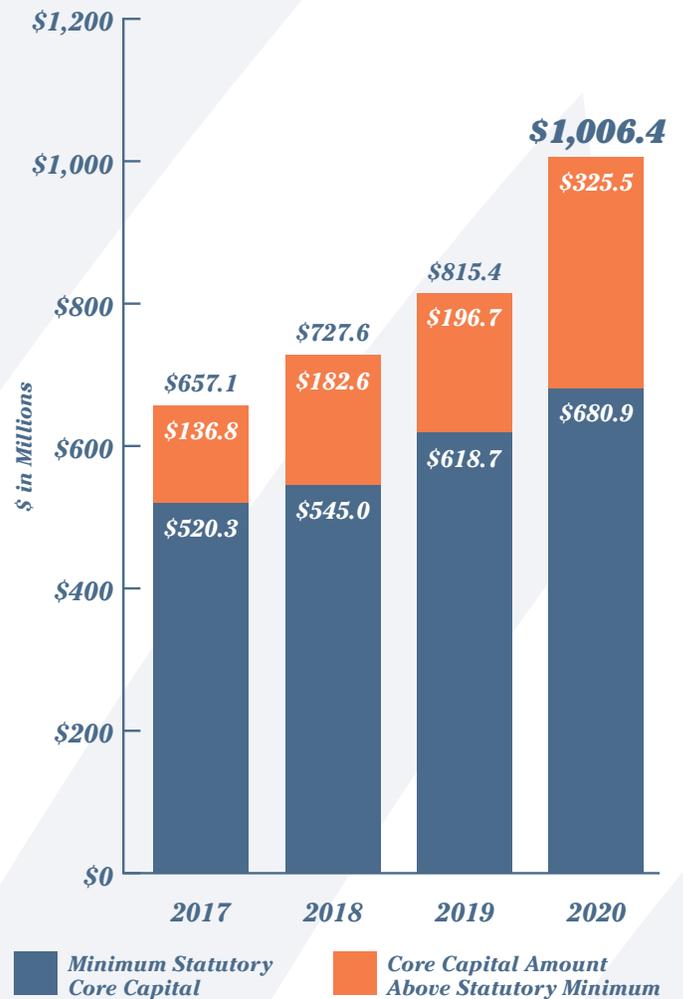
QUARTERLY COMMON STOCK DIVIDENDS

We know that mission-focused growth is key to delivering strong value to our shareholders, and are proud to report a 10% increase in our quarterly common stock dividend to \$0.88 per share beginning in the first quarter of 2021. This marks the tenth consecutive year Farmer Mac has increased its quarterly dividend, and is in line with our stated dividend payout policy of ~35% of core earnings. We believe that this most recent dividend increase aligns us squarely with providing higher returns to shareholders while allowing us to fund our long-term strategic initiatives and retain sufficient capital to maintain our safety and soundness.

QUARTERLY COMMON STOCK DIVIDENDS



ENHANCED CAPITAL POSITION*



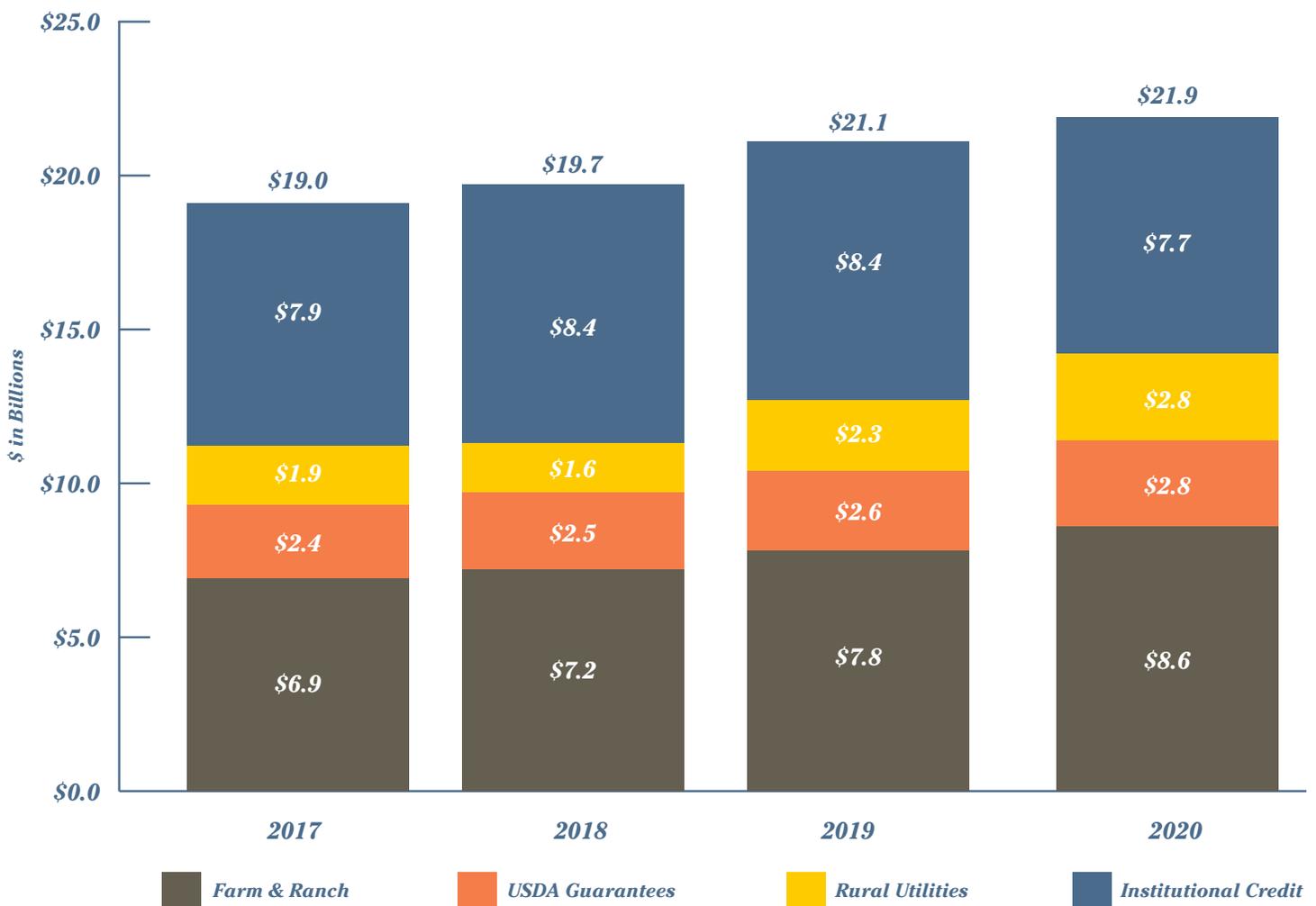
*Charts may not sum to total due to rounding

We remain well capitalized with strong liquidity. As we've said throughout the past year, we view a strong capital position as a necessary foundation to achieve our growth objectives. We enhanced our capital position twice in 2020, starting with raising \$79.5 million of non-cumulative perpetual Series E preferred stock in the second quarter. In the third quarter, we enhanced our capital position again through the issuance of \$120.0 million of non-cumulative perpetual Series F preferred stock, of which we used \$60.0 million of net proceeds to redeem \$60.0 million of the outstanding

non-cumulative Series A preferred stock. These two issuances further strengthened our Tier 1 capital position and position us well for growth and to help navigate these uncertain times effectively.

These issuances at attractive pricing levels reflect our strong access to and execution in the capital markets, which we remain focused on preserving. Farmer Mac's consistent year-over-year financial performance and our access to the capital markets remain critical to our ability to fully execute upon our mission and provide effective capital to rural Americans.

OUTSTANDING BUSINESS VOLUME*



OUR COMMITMENT TO DIVERSITY, EQUITY, AND INCLUSION

2020 offered many strong and solemn reminders of the inherent dignity and value of human life and the importance of coming together to understand, respect, value, and harness our differences for the greater good. Farmer Mac's Board of Directors has grown more diverse, and the Directors have brought their varied professional, cultural, and geographic perspectives into our Boardroom to encourage and support our employee initiatives with the same passion and support that they share for farmers, ranchers, and those living in rural America. Our Board and leadership team renewed and continued their focus on diversity, equity, and inclusion; issued a statement about racism that directly notes the ties to our core values around inclusion; and held a series of discussions on the topic over the summer. The company also formed a Diversity, Equity, and Inclusion Council comprised of a cross-section of employees to advise on how to strengthen the company's policies and practices. One of our primary objectives is for Farmer Mac to continue to understand, protect, and highlight the value of our employees' diverse backgrounds by fostering an inclusive work environment that encourages collaboration, vision, and the highest standards of excellence. We believe that talent, diversity, and inclusion are sources of pride for our employees and contribute to our strong financial performance for our shareholders and to the achievement of our mission in serving rural America.



HOW OUR MISSION WILL GUIDE OUR FUTURE

We know that when Farmer Mac has an exceptional year, it is not just our customers, employees, and shareholders who benefit. It is also the people of rural America and their communities. Our strong presence in these markets helps to benefit small farms and family farmers and ranchers; members of rural electric cooperatives; and the owners, employees of, and suppliers to rural agribusinesses. We will continue to assess and incorporate initiatives that allow Farmer Mac to serve the lending institutions of rural America—our core customers—and their borrowers as a dependable source of capital.

We remain resolved in our conviction to continue serving as a valuable and vital partner to rural America. Speaking on behalf of our leadership team, our Board, and all our employees, we are proud of the results we have achieved so far in building on our strategic goals. We look forward to delivering more benefits to rural America in the years to come as an unwavering and committed partner helping to fulfil the needs of our valued customers and their borrowers, through whatever the future may hold.

Sincerely,

A handwritten signature in orange ink that reads "Bradford T. Nordholm".

BRADFORD T. NORDHOLM

A handwritten signature in orange ink that reads "Lajuana S. Wilcher".

LAJUANA S. WILCHER

EXECUTIVE ROUNDTABLE

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

BRIAN M. BRINCH

Senior Vice President –
Enterprise Risk Officer

MARC J. CRADY

Senior Vice President –
Chief Credit Officer

ROBERT J. MAINES

Senior Vice President –
Operations

TODD A. BATTA

Vice President –
Government Affairs

CATHERINE D. BIRR

Chief of Staff

MÁRIO S. MORAIS

Vice President –
Information Technology

KERRY T. WILLIE

Vice President –
Human Capital

BOARD OF DIRECTORS

As of March 15, 2021

LAJUANA S. WILCHER, CHAIR¹

Owner – Scuffle Hill Farm
Partner – English, Lucas, Priest & Owsley, LLP
Bowling Green, Kentucky

LOWELL L. JUNKINS, VICE CHAIR¹

Political Affairs Consultant
Lowell Junkins & Associates
Donnellson, Iowa

DENNIS L. BRACK²

Director
Bath State Bank and Bath State Bancorp
Bath, Indiana

RICHARD H. DAVIDSON³

Former Director
AgriBank, FCB
St. Paul, Minnesota

EVERETT M. DOBRINSKI³

Former Director
CoBank, ACB
Greenwood Village, Colorado

JAMES R. ENGBRETSSEN²

Retired Professor, Finance
Marriott School of Management
Brigham Young University
Provo, Utah

SARA L. FAIVRE¹

Co-Owner and Advisory Partner
Wild Type Ranch
Cameron, Texas

AMY H. GALES³

Former Executive Vice President
CoBank, ACB
Greenwood Village, Colorado

MITCHELL A. JOHNSON²

Financial Consultant
Washington, District of Columbia

ERIC T. MCKISSACK²

CEO Emeritus
Channing Capital Management, LLC
Chicago, Illinois

ROBERT G. SEXTON³

President
Oslo Citrus Growers Association
Vero Beach, Florida

DANIEL L. SHAW³

Director
AgriBank, FCB
St. Paul, Minnesota

CHARLES A. STONES¹

Former President
Kansas Bankers Association
Topeka, Kansas

TODD P. WARE²

President and Chief Executive Officer
Licking Rural Electrification –
The Energy Cooperative
Newark, Ohio

MYLES J. WATTS¹

Professor Emeritus, Agricultural Economics
Montana State University
Bozeman, Montana

¹ Presidential Appointee

² Director elected by holders of Class A Common Stock

³ Director elected by holders of Class B Common Stock

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.



ANNUAL MEETING OF STOCKHOLDERS

Thursday, May 13, 2021, 8:00 a.m. EDT
Dial-In: 888.346.2616
Webcast: <https://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

Continental Stock Transfer & Trust Company
1 State Street
30th Floor
New York, NY 10004
Phone: 212.509.4000
800.509.5586
Website: www.continentalstock.com

CERTIFICATION

Farmer Mac has included as Exhibit 31 to its Annual Report on Form 10-K for the fiscal year ended December 31, 2020 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 2020 Annual Report on Form 10-K, as filed with the SEC on February 25, 2021, 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, 2020

PricewaterhouseCoopers LLP
1800 Tysons Boulevard
McLean, VA 22102

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

Form 10-K

(Mark One)

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

For the fiscal year ended December 31, 2020

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  AC

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

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. (Check one):

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

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

Indicate by check mark whether the registrant 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.

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 \$588,995,888 as of June 30, 2020, 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, 2020 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, 2020 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 8, 2021, the registrant had outstanding 1,030,780 shares of Class A voting common stock, 500,301 shares of Class B voting common stock, and 9,206,055 shares of Class C non-voting common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information contained in the registrant's Proxy Statement for the 2021 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.

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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, including statements about the COVID-19 pandemic and its impact on Farmer Mac, that may predict, forecast, indicate, or imply future results, performance, or achievements. These statements typically include terms such as "anticipates," "believes," "continues," "estimates," "expects," "forecasts," "intends," "outlook," "plans," "potential," "project," "target" and similar terms, and future or conditional tense verbs like "could," "may," "might," "should," "will," and "would." This report includes forward-looking statements addressing Farmer Mac's:

- prospects for earnings;
- prospects for growth in business volume;
- assessment of the effect of the COVID-19 pandemic on our business, financial results, financial condition, and business plans and strategies;
- trends in net interest income and net effective spread;
- trends in portfolio credit quality, delinquencies, substandard assets, credit losses, and provisions for losses;
- 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 Item 1A of this report, and uncertainties about:

- the duration, spread, and severity of the COVID-19 pandemic;
- the actions taken to address the COVID-19 pandemic, including government actions to mitigate the economic impact of the pandemic, how quickly and to what extent normal economic and operating conditions can resume, the possibility of future disruptions to economic recovery caused by more outbreaks, regulatory measures or voluntary actions to limit the spread of COVID-19, and the duration and efficacy of those restrictions;
- the effects of the COVID-19 pandemic on the business operations of agricultural and rural borrowers, the capital markets, and Farmer Mac's business operations;
- the availability to Farmer Mac of debt and equity financing and, if available, the reasonableness of rates and terms;

- legislative or regulatory developments that could affect Farmer Mac, its sources of business, or the agricultural or rural utilities industries;
- fluctuations in the fair value of assets held by Farmer Mac and its subsidiaries;
- the level of lender interest in Farmer Mac's products and the secondary market provided by Farmer Mac;
- the general rate of growth in agricultural mortgage and rural utilities indebtedness;
- the effect of economic conditions and geopolitics on agricultural mortgage or rural utilities lending, borrower repayment capacity, or collateral values, including fluctuations in interest rates, changes in U.S. trade policies, fluctuations in export demand for U.S. agricultural products, 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 effect of any changes in Farmer Mac's executive leadership; and
- other factors that could hinder agricultural mortgage lending or borrower repayment capacity, including the effects of weather and 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 (including participations in eligible loans and revolving lines of credit) directly from lenders;
- purchasing general obligation securities that are issued by lenders and guaranteed by Farmer Mac and that are secured by eligible loans, which Farmer Mac refers to as "AgVantage," a registered trademark of Farmer Mac;
- issuing securities guaranteed by Farmer Mac that represent interests in, or obligations secured by, pools of eligible loans (together with AgVantage, these securities are referred to as "Farmer Mac Guaranteed Securities"); 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.

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, 2020, Farmer Mac had \$1.8 billion of discount notes and \$20.0 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. Through 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.

The current economic and regulatory environment presents Farmer Mac with opportunities to market a mix of products to lenders in need of capital, liquidity, portfolio diversification, and 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 the utilization of secondary market capital could further support their origination efforts and drive efficient capital deployment to agriculture 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 presents opportunity to 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 conducts its secondary market activities through four lines of business – Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit. The loans (and participation interests in those loans) eligible for Farmer Mac's secondary market include:

- mortgage loans secured by first liens on agricultural real estate, including part-time farms and rural housing (comprising the assets eligible for the Farm & Ranch line of business);
- agricultural and rural development loans guaranteed by the United States Department of Agriculture ("USDA") (comprising the assets eligible for the USDA Guarantees line of business); and
- loans by lenders organized as cooperatives to finance electrification and telecommunications systems in rural areas (comprising the assets eligible for the Rural Utilities line of business).

Farmer Mac also guarantees and purchases general obligations of lenders that are secured by pools of these three types of eligible loans (comprising the assets eligible for the Institutional Credit line of business). As of December 31, 2020, the total outstanding business volume in all of Farmer Mac's lines of business was \$21.9 billion.

The following table presents the outstanding balances under Farmer Mac's four lines of business (Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit) as of December 31, 2020 and December 31, 2019:

Lines of Business - Outstanding Business Volume				
	As of December 31, 2020		As of December 31, 2019	
	<i>(in thousands)</i>			
On-balance sheet:				
Farm & Ranch:				
Loans	\$	4,889,393	\$	3,675,640
Loans held in trusts:				
Beneficial interests owned by third party investors		1,287,045		1,600,917
USDA Guarantees:				
USDA Securities		2,452,964		2,199,072
Farmer Mac Guaranteed USDA Securities		34,456		31,887
Rural Utilities:				
Loans		2,260,412		1,671,293
Institutional Credit:				
AgVantage securities		7,734,947		8,432,679
Total on-balance sheet	\$	18,659,217	\$	17,611,488
Off-balance sheet:				
Farm & Ranch:				
LTSPCs	\$	2,325,431	\$	2,393,071
Guaranteed Securities		79,312		107,322
USDA Guarantees:				
Farmer Mac Guaranteed USDA Securities		299,298		389,216
Rural Utilities:				
LTSPCs		556,425		609,278
Institutional Credit:				
AgVantage securities		4,412		7,567
Total off-balance sheet	\$	3,264,878	\$	3,506,454
Total	\$	21,924,095	\$	21,117,942

Farm & Ranch

Under the Farm & Ranch line of business, Farmer Mac provides a secondary market for mortgage loans secured by first liens on agricultural real estate (including part-time farms and rural housing) by (1) purchasing and retaining eligible mortgage loans and revolving lines of credit, (2) securitizing eligible mortgage loans and guaranteeing the timely payment of principal and interest on the resulting securities that represent interests in, or obligations secured by, pools of those loans, or (3) issuing LTSPCs for designated eligible mortgage loans, subject to the applicable LTSPC agreement. 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, and commitment fees earned on loans in LTSPCs.

Farmer Mac experiences direct credit exposure to borrowers through its loan purchases, 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.

Loan Eligibility

To be eligible for the Farm & Ranch line of business, a loan must:

- be 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;
- be 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;
- be an obligation of a person, corporation, or partnership having training or farming experience that is sufficient to ensure a reasonable likelihood that the loan will be repaid according to its terms; and
- meet the credit underwriting, collateral valuation, documentation, and other specified standards for the Farm & Ranch line of business. See "—Underwriting and Collateral Standards" and "—Lenders" for a description of these standards.

Eligible agricultural real estate consists of one or more parcels of land, which may be improved by permanently affixed buildings or other structures, that:

- is used for the production of one or more agricultural commodities or products; and
- either consists of a minimum of five acres or generates minimum annual receipts of \$5,000.

This variety in the types of permitted collateral to include buildings and structures used in agriculture production means that eligible Farm & Ranch loans may include loans to agribusinesses that support agriculture production, food and fiber processing, and other supply chain production, as well as loans to direct growers and producers of agricultural commodities.

Farmer Mac's charter authorizes a maximum loan size (adjusted annually for inflation) for an eligible Farm & Ranch loan secured by more than 2,000 acres of agricultural real estate. That maximum loan size

was \$13.2 million as of December 31, 2020. The charter does not prescribe a maximum loan size or a total borrower exposure for an eligible Farm & Ranch 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 (\$100.6 million as of December 31, 2020).

Guarantees and Commitments

Farmer Mac offers two credit enhancement alternatives to direct loan purchases through the Farm & Ranch line of business 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. 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 and five 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 or participation interests in those loans held by a trust or other entity. Farmer Mac either retains or sells these securities and guarantees the timely payment of principal and interest on the securities in the event of a payment shortfall due to default. As consideration for its assumption of the credit risk on the assets underlying the Farm & Ranch Guaranteed Securities, Farmer Mac receives guarantee fees based on the outstanding principal balance of the related securities.

Farmer Mac is obligated under its guarantee on the securities to make timely payments to investors of principal (including balloon payments) and interest based on the scheduled payments on the underlying loans, 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. The amount of

Farm & Ranch Guaranteed Securities outstanding is influenced by the repayment rates on the underlying loans and by the rate at which Farmer Mac issues new Farm & Ranch Guaranteed Securities. In general, when the level of interest rates declines significantly below the interest rates on loans underlying Farm & Ranch Guaranteed Securities, the rate of prepayments is likely to increase. Conversely, when interest rates rise above the interest rates on the loans underlying Farm & Ranch Guaranteed Securities, the rate of prepayments is likely to decrease. In addition to changes in interest rates, the timing of principal payments on Farm & Ranch Guaranteed Securities also is influenced by a variety of economic, demographic, and other considerations. Farmer Mac's guarantee does not cover prepayments on the loans underlying the related Farm & Ranch Guaranteed Securities.

Underwriting and Collateral Standards

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 agricultural real estate mortgage loans in the Farm & Ranch line of business:

- 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.

In addition to these minimum standards, eligible loans in Farmer Mac's Farm & Ranch line of business are also typically required to meet more specific underwriting criteria established by Farmer Mac or demonstrate compensating strength in one or more other underwriting criteria. For larger loan exposures to agriculture production and agribusinesses that support agriculture production, food and fiber processing, and other supply chain production, which may have different risk profiles, Farmer Mac has implemented methodologies and parameters that help assess credit risk based on the appropriate sector, borrower construct, and transaction complexity. 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.

Lenders

Farmer Mac approves lenders into its network of 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 the Farm & Ranch line of business 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 loans eligible for Farmer Mac's Farm & Ranch line of business 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; 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.

Loan Servicing

Farmer Mac generally does not directly service the loans in the Farm & Ranch line of business, although in some cases Farmer Mac may assume direct servicing for defaulted loans. Farmer Mac contracts with other institutions to undertake most of the servicing responsibilities for its 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. However, 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.

Loans under LTSPCs are serviced by the holders of those loans in accordance with those lenders' servicing procedures, which Farmer Mac reviews before entering into those transactions.

The substance of all servicing for loans in the Farm & Ranch line of business is performed in a manner consistent with Farmer Mac's servicing requirements, with some special servicing for loans purchased from LTSPCs to collateralize Farm & Ranch Guaranteed Securities, in order to accommodate the borrower rights regime unique to loans originated by FCS institutions.

USDA Guarantees

Farmer Mac's charter provides that:

- USDA-guaranteed portions of loans (which Farmer Mac refers to as "USDA Securities") guaranteed under the Consolidated Farm and Rural Development Act (7 U.S.C. § 1921 et seq.) are statutorily included in the definition of loans eligible for the secondary market programs provided by Farmer Mac;
- 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; and
- Farmer Mac is authorized to pool, issue, and guarantee timely interest and principal on securities backed by USDA Securities ("Farmer Mac Guaranteed USDA Securities").

Farmer Mac purchases USDA Securities through Farmer Mac II LLC, a subsidiary of Farmer Mac that operates substantially all of the business related to the USDA Guarantees line of business. 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.

Lenders

Any lender authorized by the USDA to obtain a USDA guarantee on a loan may participate in Farmer Mac's USDA Guarantees line of business.

Loan Servicing

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, and to remain mortgagee and/or secured party of record. 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.

Rural Utilities

Farmer Mac's charter authorizes the purchase of, and guarantee of securities backed by, loans (including participation interests in 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's Rural Utilities line of business encompasses purchases of eligible Rural Utilities loans and guarantees of securities backed by those loans, as well as LTSPCs for pools of eligible Rural Utilities loans. To be eligible, Rural Utilities loans must meet Farmer Mac's credit underwriting and other specified standards. There currently are no guaranteed securities issued under the Rural Utilities line of business, although the Institutional Credit line of business includes some AgVantage securities that are secured by Rural Utilities loans. The vast majority of Farmer Mac's business to date under the Rural Utilities line of business has involved loans made to electric facilities (primarily electric distribution cooperatives and electric generation and transmission cooperatives). During 2020, Farmer Mac purchased \$64.3 million of renewable energy loans in connection with various projects as part of Farmer Mac's renewable energy project finance strategic initiative under its Rural Utilities authority.

Loan Eligibility

To be eligible for Farmer Mac's Rural Utilities line of business, a Rural Utilities loan (or a participation interest in a loan) must:

- be to a borrower that has received or is eligible to receive a loan under the REA for an electric or telecommunications facility;
- be by a lender organized as a cooperative;
- be performing and not more than 30 days delinquent; and
- meet Farmer Mac's underwriting standards described in more detail below.

Underwriting and Collateral Standards

Farmer Mac's charter does not specify minimum underwriting criteria for eligible Rural Utilities 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 Utilities 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 loans and are designed to assess the creditworthiness of the borrower, as well as the risk to Farmer Mac. 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 in loans to electric distribution cooperatives and electric generation and transmission cooperatives 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 results 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. Loans to renewable electric energy borrowers are typically secured by the borrower's project equipment, contracts, and land or leasehold interest, but Farmer Mac's enforcement rights may be subject to tax equity interests in the borrower's renewable energy project. 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.

Lenders and Loan Servicing

Farmer Mac's charter requires eligible Rural Utilities loans to be by a lender organized as a cooperative. Farmer Mac does not directly service the Rural Utilities loans held in its portfolio, which are serviced by a designee of Farmer Mac.

Institutional Credit

Under the Institutional Credit line of business, Farmer Mac guarantees and purchases general obligations of lenders and other financial institutions (including financial funds) that are secured by pools of the types of loans eligible for purchase under Farmer Mac's Farm & Ranch, USDA Guarantees, or Rural Utilities lines of business. Farmer Mac refers to these as AgVantage securities. Typically, Farmer Mac retains AgVantage securities in its portfolio. Farmer Mac's guarantee and purchase of AgVantage securities comprise the Institutional Credit line of business.

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 required to remove from the pool of pledged collateral any loan that becomes more than 30 days delinquent in the payment of principal or interest and to 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 Farm & Ranch 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 Farm & Ranch loans currently ranges from 103% to 125%. The required collateralization level is determined based on credit factors related to the issuer, 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 Farm & Ranch 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.

Farmer Mac has tailored a version of its AgVantage product to focus on institutional investors in agricultural assets that qualify as collateral for the types of loans eligible for the Farm & Ranch line of business. Farmer Mac refers to this product variation as the Farm Equity AgVantage product. This product has similar requirements for AgVantage securities secured by Farm & Ranch loans described above, but Farmer Mac also requires that Farm Equity AgVantage transactions maintain a higher collateralization level through lower loan-to-value ratio thresholds and contain specified financial covenants for the life of the related AgVantage security.

AgVantage securities secured by loans eligible for Farmer Mac's Rural Utilities line of business require:

- the counterparty issuing the general obligation to have a credit rating from an 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 electric cooperatives on which Farmer Mac assumes direct credit exposure also apply to loans made to electric cooperatives that secure the general obligation of the lender in AgVantage transactions. 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). Farmer Mac also permits up to 20% of Rural Utilities loans pledged to secure AgVantage securities to be unsecured or secured by less than all of the borrower's assets.

COMPETITION

Farmer Mac is the only federally-chartered corporation established to provide a secondary market for agricultural mortgage loans, Rural Utilities loans, and USDA Securities. But Farmer Mac does face indirect competition from many sources. These sources include other entities that purchase, retain, securitize, or provide financing for the types of assets eligible for Farmer Mac's secondary market activities such as 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 the agricultural and rural utilities sectors;
- the ability of other lending institutions to compete with Farmer Mac (e.g., by price averaging through offering multiple loan and fee based products or by accepting a lower return on equity given market dynamics);
- 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 Farm & Ranch 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. 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. The classes of Farmer Mac's outstanding common stock and their relationship to Farmer Mac's board of directors are described below.

- 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, and shares of this class are freely transferable. Farmer Mac uses Class C non-voting stock for awards of equity-based compensation to officers, directors, and selected employees as part of the company's compensation programs. Holders of the Class C 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.
- Presidential director appointments. The remaining five members of Farmer Mac's 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.

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"), 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 participate in the Farm & Ranch line of business. 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, 2020, Farmer Mac employed 121 people, with 34 new employees hired during the year. Farmer Mac employs full-time employees to meet its business needs as it grows and evolves while supplementing human capital needs with independent contractors and consultants as needed. Our workforce included seven actively engaged independent contractors as of the end of the year.

Farmer Mac's employees are located throughout the United States, often near many of its primary customers. As of December 31, 2020, 83 full-time employees were located in the Washington, D.C. area, 14 full-time employees were located in the Johnston, Iowa area, and 24 full-time employees worked on a fully-remote basis (without regard to the COVID-19 pandemic) in other parts of the United States.

As a financial services organization, Farmer Mac must attract and retain a highly-skilled workforce in an often competitive employment environment. We utilize traditional methods to attract and retain talent, such as competitive salaries and benefits, including a generous group health plan and an employer-funded 401(k) plan. We also believe that our mission to serve agricultural and rural communities, as well as philanthropic activities we undertake in support of our mission, provide Farmer Mac an advantage in our efforts to attract and retain talent. We also recognize that employee engagement is a key component in Farmer Mac's human capital retention strategy. Therefore, we seek to create an inclusive work culture that is diverse and collaborative, with a focus on long-term succession planning and professional development. We also utilize flexible work structures and technology to create incentives to join and remain with Farmer Mac. Farmer Mac experienced a 9.6% turnover rate in 2020, which was down 4.3% compared to 2019.

COVID-19 Pandemic

The COVID-19 pandemic altered the way many companies work, including Farmer Mac. In March 2020, we executed our business continuity plan swiftly and with minimal disruption, and all of our employees have been working in a fully-remote environment since then. We promptly assessed the technical resources required for Farmer Mac to operate on a fully-remote basis, as well the ability of our employees to manage home and work in this new paradigm. For example, Farmer Mac provided stipends to all employees to purchase office equipment and supplies for remote work capability. To encourage employee morale and support our mission, Farmer Mac donated the budgeted stipend funds that remained unused to a nonprofit organization fighting against food insecurity in the United States. To ensure continuity in regular communications, we have reinforced our employees' access to secure digital meeting platforms, and our senior executive team has been leading bi-weekly meetings of all employees to share pertinent information on Farmer Mac's business and operations and to provide a forum for discussing current events. We also leveraged this engagement opportunity to gauge the health and well-being of employees and to solicit their feedback, to which we responded with initiatives to address work/life balance, including added flexibility in working hours and paid time off.

We have established a cross-functional team to assess the criteria necessary for a safe return to Farmer Mac's offices, including employee health screenings, facility redesign, and family care needs. We do not

currently have an established timeline for a full-scale return of our employees to Farmer Mac's offices. However, we remain confident in our employees' capacity to remain engaged and productive on a remote basis as may be needed for the foreseeable future.

Code of Business Conduct and Ethics

Farmer Mac provides appropriate orientation for every new hire and requires annual training on and recertification of our Code of Business Conduct and Ethics, which encompasses the following four 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, and (4) conducting business diligently and being a good corporate citizen. Farmer Mac's Code of Business Conduct and Ethics was refreshed in 2018 to reflect this principles-based approach. Our 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

During 2020, we strengthened our focus on diversity, equity, and inclusion ("DE&I") efforts within Farmer Mac's workforce. Our philosophy emphasized listening first, with a focus on small employee groups to solicit feedback on Farmer Mac's practices. This yielded guidance for a newly-formed internal Diversity Council, which is charged with helping to shape Farmer Mac's strategy for DE&I. Farmer Mac has also contracted with an external consultant to help deepen our understanding of race and racism and how it may affect the workplace and to assist Farmer Mac's Diversity Council with building a framework and strategy for DE&I.

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, 2020, this reserve against losses arising from Farmer Mac's guarantee activities was \$101.6 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 either anticipated credit losses or estimated probable 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 6 months to 15 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 FCA'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.

Common Stock

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, 2020, 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
- 9,205,897 shares of Class C non-voting common stock.

During first quarter 2020, Farmer Mac repurchased approximately 4,000 shares of Class C non-voting common stock at a cost of approximately \$0.2 million under a share repurchase program that Farmer Mac's board or directors approved in 2015 and modified in 2019. Shortly after these repurchases were completed, Farmer Mac indefinitely suspended its share repurchase program in an effort to preserve capital and liquidity in view of market volatility and uncertainty caused by the COVID-19 pandemic. As of December 31, 2020, 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 program expires at the end of March 2021.

The following table presents the dividends declared on Farmer Mac's common stock during and after 2020:

Date Dividend Declared	Per Share Amount	For Holders Of Record As Of	Date Paid
February 24, 2020	\$0.80	March 16, 2020	March 31, 2020
May 29, 2020	\$0.80	June 15, 2020	June 30, 2020
August 27, 2020	\$0.80	September 16, 2020	September 30, 2020
November 11, 2020	\$0.80	December 15, 2020	December 31, 2020
February 23, 2021	\$0.88	March 16, 2021	*

* The dividend declared on February 23, 2021 is scheduled to be paid on March 31, 2021.

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."

Preferred Stock

No ownership restrictions apply to any preferred stock issued by Farmer Mac, and those securities are freely transferable. As of December 31, 2020, 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; and
- 4,800,000 shares of Series F Preferred Stock, all of which were issued in August 2020.

On September 19, 2020, Farmer Mac used part of the net proceeds from the sale of the Series F Preferred Stock to redeem and repurchase all \$60.0 million aggregate outstanding of Farmer Mac's 5.875% Non-Cumulative Preferred Stock, Series A ("Series A Preferred Stock"), plus any declared and unpaid dividends through and including the redemption date. As a result of the retirement of the Series A Preferred Stock, Farmer Mac recognized \$1.7 million of deferred issuance costs, which is presented as "Loss on retirement of preferred stock" on the consolidated statements of operations.

The Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, and Series F 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, and the Series F Preferred Stock pay an annual dividend rate fixed at 5.700%, 5.750%, and 5.250%, 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%. 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, and Series F 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, and the Series F Preferred Stock on and after October 17, 2025, all at a price equal to the then-applicable liquidation preference. Any redemption date for the Series D, Series E, or Series F 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 A Preferred Stock during 2020:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 24, 2020	\$0.3672	January 18, 2020	April 17, 2020	April 17, 2020
May 29, 2020	\$0.3672	April 18, 2020	July 17, 2020	July 17, 2020
August 27, 2020	\$0.2530	July 18, 2020	September 19, 2020	September 19, 2020

The following table presents the dividends declared and paid on Series C Preferred Stock during and after 2020:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 24, 2020	\$0.3750	January 18, 2020	April 17, 2020	April 17, 2020
May 29, 2020	\$0.3750	April 18, 2020	July 17, 2020	July 17, 2020
August 27, 2020	\$0.3750	July 18, 2020	October 17, 2020	October 17, 2020
November 11, 2020	\$0.3750	October 18, 2020	January 17, 2021	January 17, 2021
February 23, 2021	\$0.3750	January 18, 2021	April 17, 2021	*

* The dividend declared on February 23, 2021 is scheduled to be paid on April 17, 2021.

The following table presents the dividends declared and paid on Series D Preferred Stock during and after 2020:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
February 24, 2020	\$0.35625	January 18, 2020	April 17, 2020	April 17, 2020
May 29, 2020	\$0.35625	April 18, 2020	July 17, 2020	July 17, 2020
August 27, 2020	\$0.35625	July 18, 2020	October 17, 2020	October 17, 2020
November 11, 2020	\$0.35625	October 18, 2020	January 17, 2021	January 17, 2021
February 23, 2021	\$0.35625	January 18, 2021	April 17, 2021	*

* The dividend declared on February 23, 2021 is scheduled to be paid on April 17, 2021.

The following table presents the dividends declared and paid on Series E Preferred Stock during and after 2020:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
May 29, 2020	\$0.227600	May 21, 2020	July 17, 2020	July 17, 2020
August 27, 2020	\$0.359375	July 18, 2020	October 17, 2020	October 17, 2020
November 11, 2020	\$0.359375	October 18, 2020	January 17, 2021	January 17, 2021
February 23, 2021	\$0.359375	January 18, 2021	April 17, 2021	*

* The dividend declared on February 23, 2021 is scheduled to be paid on April 17, 2021.

The following table presents the dividends declared and paid on Series F Preferred Stock during and after 2020:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
August 27, 2020	\$0.2078125	August 21, 2020	October 17, 2020	October 17, 2020
November 11, 2020	\$0.3281250	October 18, 2020	January 17, 2021	January 17, 2021
February 23, 2021	\$0.3281250	January 18, 2021	April 17, 2021	*

* The dividend declared on February 23, 2021 is scheduled to be paid on April 17, 2021.

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 \$101.6 million as of December 31, 2020); 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, 2020, 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 as had been given to the housing GSEs, 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 create the USDA Guarantees line of business;
- 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 the Farm & Ranch 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, 2020 was \$197.4 million and Farmer Mac's regulatory capital of \$1.0 billion exceeded that amount by

approximately \$826.6 million. 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, 2020, 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 Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit 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, 2020, Farmer Mac's Tier 1 capital ratio was 14.1%. 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, the rural utilities industry, access to the capital markets, the regulatory environment, and 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.

COVID-19 Pandemic Risk

The effects of the COVID-19 pandemic are uncertain and may heighten the risk factors described in this report or could otherwise have a material adverse effect on Farmer Mac's business, operations, operating results, financial condition, liquidity, or capital levels.

The COVID-19 pandemic continues to create extensive disruptions to the global economy and to the lives of individuals throughout the world. The effectiveness of Farmer Mac's efforts to manage and mitigate the following risk factors during the COVID-19 pandemic and how much the pandemic affects Farmer Mac's business, results of operations, and financial condition will depend on many factors beyond Farmer Mac's control, including:

- the duration and severity of the pandemic and the effectiveness of government and public health responses, including to the prevalence of any new strains of the novel coronavirus and the widespread distribution, public acceptance, availability, and use of vaccines;
- the existence and scope of government intervention to mitigate the negative economic effects of the COVID-19 pandemic, including imposing any moratoria on agricultural mortgage foreclosures;
- the ability of Farmer Mac's borrowers to withstand economic pressures caused by the COVID-19 pandemic, how quickly and to what extent affected borrowers can recover from the negative economic effects of the pandemic, and the nature and extent to which affected borrowers require loan payment deferments;
- the extent to which disruptions in the capital markets or volatility in interest rates stemming from the effects of the COVID-19 pandemic impair customer demand for Farmer Mac's loan products, Farmer Mac's ability to offer those loan products at competitive prices, or Farmer Mac's ability to access the capital markets to fund and capitalize its operations;
- the continued ability of Farmer Mac, its vendors, and the organizations on which they rely, such as government offices and courthouses, to operate effectively during the COVID-19 pandemic, including their ability to implement effective cyber-security protocols in remote-working environments as needed;
- how quickly and to what extent normal economic and operating conditions can resume, including whether any future COVID-19 outbreaks interrupt economic recovery; and

- whether the COVID-19 pandemic causes any residual negative effects once the pandemic has subsided.

The full effects of the COVID-19 pandemic on Farmer Mac's business, results of operations, and financial condition may not be fully known for some time and may heighten the risk factors described below or may otherwise materially and adversely affect Farmer Mac's business, operations, operating results, financial condition, liquidity, or capital levels.

Credit and Counterparty Risk

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.

External factors beyond Farmer Mac's or borrowers' control could impair borrowers' profitability, such as severe or protracted adverse weather and related effects (including recent severely cold weather in Texas); 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 the continued COVID-19 pandemic 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 profitability of a farming 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.

Farmer Mac assumes the ultimate credit risk of borrower defaults on its agricultural mortgage and rural utilities 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 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 to a particular commodity type, geographic region, or collateral type. Widespread weakening in the financial condition of borrowers within a particular geographic region, commodity type, or collateral type (which could be exacerbated by a prolonged period of economic stress due to the effects of the COVID-19 pandemic) could negatively affect Farmer Mac's financial condition if the geographic and commodity diversity within Farmer Mac's portfolio does not successfully mitigate concentration risk. Farmer Mac's credit risk may also increase due to decline in the collateral values securing the loans in Farmer Mac's portfolio, particularly if the collateral is single-use or highly improved, such as storage and processing facilities or permanent plantings. Single-use or highly improved collateral increases the risk of ultimate losses on a given loan because producers requiring single-use or highly improved collateral are less able to adapt their operations or switch functional production when faced with adverse conditions and are more likely to be undercollateralized in a default scenario. For example, Farmer Mac's cumulative net credit losses for

loans to borrowers in the Agricultural Storage and Processing category are 54.5% of its cumulative net credit losses for all categories.

Farmer Mac's exposure to credit risk may also increase due to concentrated exposure to a particular borrower or counterparty. Farmer Mac's Farm & Ranch 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. Most of Farmer Mac's AgVantage exposure is concentrated in a few issuers. As of December 31, 2020, \$7.0 billion of the \$7.7 billion of AgVantage securities outstanding had been issued by 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, 2020, Farmer Mac held at fair value \$1.9 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, 2020, Farmer Mac had \$3.3 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, 2020, Farmer Mac held cash, cash equivalents, and other investment securities with a fair value of \$4.9 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. Farmer Mac's derivative contracts executed before March 2017 have market value thresholds ranging from \$15 to \$25 million that must be exceeded before Farmer Mac must post collateral. Repositioning these swaps under current margin rules if the related counterparty were to fail could require Farmer Mac to post significant collateral within a short time frame. Any of these factors resulting from a failure of the swap clearinghouse, futures commission merchant, or any of Farmer Mac's bilateral swap counterparties 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, 2020, the aggregate notional balance of Farmer Mac's cleared swaps was \$12.8 billion, and the aggregate notional balance of Farmer Mac's non-cleared swaps was \$2.6 billion (including \$0.3 billion notional amount of non-cleared swaps executed before March 2017).

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 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 Utilities loans due to regional, domestic, or global economic conditions; and
- expanded funding alternatives available to agricultural and rural utilities 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 capacity to remain adequately capitalized through the issuance of equity and debt securities at favorable rates and terms in the U.S. financial markets. Farmer Mac's potential for growth and future net income depends in part on Farmer Mac's ability to access equity markets to raise efficient capital. The issuance of debt securities is Farmer Mac's primary source for repaying or refinancing existing debt, and one of the primary sources of Farmer Mac's revenue is the net interest income earned from the difference, or "spread," between the return received on assets held and the related borrowing costs. 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, 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 could result in vulnerability as existing assets pay down or mature and the status and needs of Farmer Mac's business partners evolve. In 2020, ten institutions generated approximately 57% of loan purchase volume in the Farm & Ranch line of business. As of December 31, 2020, approximately 90% of the \$7.7 billion outstanding principal amount of AgVantage securities under Farmer Mac's Institutional Credit line of business were issued by three institutions (of which \$1.7 billion and \$1.4 billion will be maturing in 2021 and 2022, respectively). As of December 31, 2020, transactions with two institutions represented nearly all of the business volume under Farmer Mac's Rural Utilities 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 Utilities loans, and the guaranteed portions of USDA-guaranteed loans. In pursuing this mission, Farmer Mac's secondary market activities are designed to:

- increase the availability of credit 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. Three financial institutions hold approximately 44% 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 could seek to influence (and may succeed in influencing), 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.

Changes in Farmer Mac's board could adversely affect its business, operations, and strategy.

Farmer Mac's charter prescribes that its board of directors consist of fifteen members. The holders of Farmer Mac's Class A voting common stock and the holders of Farmer Mac's Class B voting common stock separately elect five board members for each class annually. The President of the United States, with the advice and consent of the United States Senate, appoints five board members (one of whom is designated as the chair of the board of directors). Farmer Mac's Presidentially appointed board members serve at the pleasure of the President of the United States and therefore could be replaced at any time. If,

as a result of annual elections or new Presidential appointments to the board, Farmer Mac were to experience a significant turnover in board membership within a short time and the new directors were not able to become proficient quickly in Farmer Mac's business, operations, and strategies, the effectiveness of Farmer Mac's board of directors in overseeing the business, affairs, strategies, and operations of Farmer Mac could be adversely affected. In 2020, three new individuals joined Farmer Mac's board of directors, two of whom were elected by holders of voting common stock in May 2020 (one of whom died later that year) and one of whom was appointed by the President of the United States after confirmation by the U.S. Senate in December 2020.

Operational Risk

The inadequacy or failure of Farmer Mac's operational systems, cybersecurity plan, 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 refers to the risk of loss to Farmer Mac resulting from:

- inadequate or failed internal processes, systems, cybersecurity plan, or infrastructure;
- Farmer Mac's inability to successfully implement enhancements to any of these or migrate to new systems or infrastructure;
- failed execution based on human error;
- inadequate or failed internal controls or processes to detect or prevent fraud; or
- external events, including a disruption involving physical site access, cyber incidents, 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 plan, or infrastructure could lead to a significant disruption in its business operations, financial and economic loss, errors in its financial statements, impairment of its liquidity, liability or service interruptions to its customers, increased regulatory or legislative scrutiny, or reputational damage.

In response to the challenges presented by the COVID-19 pandemic, Farmer Mac has modified its business practices to focus on protecting its employees and the public while continuing to fulfill its critical mission and maintaining its regular business operations in support of the farmers, ranchers, and rural utilities of America. On March 12, 2020, Farmer Mac activated its Business Continuity Plan (“BCP”) and has been operating uninterrupted since then with all of its employees working remotely from their homes. Farmer Mac has provided guidance and support to its employees to ensure that they have the tools and knowledge needed to effectively work from home, and Farmer Mac’s technology platform and BCP have been functioning as designed in support of all functions of the organization. Nonetheless, because the technology in employees’ homes may not be as robust as in Farmer Mac’s offices and could cause the networks, information systems, applications, and other tools available to employees to be more limited or less reliable than Farmer Mac’s in-office technology, the continuation of these work-from-home measures introduces more operational risk. These risks include but are not limited to greater cybersecurity risk and disruption or failure of local technology networks, which could impair Farmer Mac's ability to perform

critical functions. The realization of any of these risks could have a material adverse effect on Farmer Mac's business, results of operations, or financial condition.

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. Yet Farmer Mac's ability to implement safeguards preventing disruption to third-party systems or infrastructure is more limited than for its own systems or infrastructure. The risk of disruption to third-party systems or infrastructure may be heightened due to COVID-19-related illnesses or government or third-party actions taken to mitigate the public health effects of the COVID-19 pandemic, including stay-at-home orders. 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 or are disrupted, then Farmer Mac's operations and its ability to conduct its business in the ordinary course may be adversely affected, which could have a material adverse effect on Farmer Mac's business, results of operations, or financial condition.

Any significant deficiency, failure, interruption, or breach in Farmer Mac's information systems, including the occurrence of successful cyber-attacks or a significant deficiency in Farmer Mac's cybersecurity plan, 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 information systems, including from third parties, to conduct and manage its business operations. These information systems encompass an integrated set of hardware, software, infrastructure, and trained personnel organized to facilitate the planning, control, coordination, and decision-making processes within Farmer Mac. As Farmer Mac's reliance on information systems has increased, so have the risks posed to its systems, including the effect of events that would threaten the confidentiality, integrity, or availability of Farmer Mac's information resources, known as cyber incidents. Like many other financial institutions, Farmer Mac faces regular attempts by third parties to gain unauthorized access to its information systems. Despite the increased cybersecurity risks presented by a workforce that is operating entirely remotely, Farmer Mac is not aware of any cyber-attacks or other privacy or data security incidents through the date of this report that negatively affected the confidentiality, integrity, or availability of Farmer Mac's information resources or that have had a material effect on its business, operating results, or financial condition, but it is not possible to predict the effect on Farmer Mac of any future cyber incidents.

Farmer Mac has undertaken preventive measures and devotes what Farmer Mac believes to be adequate resources to design, manage, monitor, deploy, and assess its information systems and cybersecurity program consistent with industry best practices. Farmer Mac's cybersecurity program assesses Farmer Mac's cybersecurity risk profile and seeks to ensure there are sufficient measures and safeguards in place to mitigate the risks identified. However, Farmer Mac may be unable to prevent, address on a timely and adequate basis, or fully mitigate the negative effects associated with a successful cyber-attack on Farmer Mac's or its third-party information systems, which could adversely affect Farmer Mac's business, operating results, reputation, or financial condition. Because the methods used to launch cyber-attacks change often or, in some cases, are not recognized until launched, Farmer Mac also may be unable to implement effective preventive measures or proactively address these methods until discovered. A failure or interruption in any of Farmer Mac's information systems could cause a disruption or malfunction of its operations, which could adversely affect Farmer Mac's ability to conduct business with its customers, loan

servicers, service providers, or other counterparties, result in financial loss, or damage Farmer Mac's reputation.

The secure transmission, processing, and storage of Farmer Mac's confidential, proprietary, and other information assets through Farmer Mac's or its third-party information systems is instrumental to Farmer Mac's operations. Any action that results in unauthorized access to Farmer Mac's information systems by third parties, including through viruses, malware, cyber-attacks, or other information system breaches, could disrupt Farmer Mac's operations, corrupt its data, or cause the misappropriation, unauthorized release, loss, or destruction of the confidential, proprietary, or other information assets of its customers, loan servicers, service providers, or other counterparties. Unauthorized access to Farmer Mac's information systems or sensitive information could cause Farmer Mac to experience prolonged operational interruption, damage to its reputation, material loss of business, legal liability, or increased costs from private data exposure, which could adversely affect Farmer Mac's business, operating results, reputation, or financial condition

Failure by Farmer Mac's third-party loan servicers, 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, and other service providers, to perform various functions for Farmer Mac. During these activities, these third parties collect and have access to a variety of confidential or proprietary information, including, among others, sensitive financial information, information presented to Farmer Mac's board of directors, information provided to Farmer Mac's regulators, information about the lenders that participate in Farmer Mac's lines of business, and personal financial information about the borrowers with loans in one of Farmer Mac's lines of business. Any unauthorized access to or cyber incidents affecting the information systems of one of these third parties, including through viruses, malware, cyber-attacks, or other information system breaches, could result in the misappropriation and inappropriate release of the confidential or proprietary information entrusted to Farmer Mac. Prior instances of unauthorized access to Farmer Mac's third parties' information systems have not resulted in the misappropriation or inappropriate release of the confidential or proprietary information entrusted to Farmer Mac, although it is not possible to predict the consequences of any future instances. Any employees or agents of Farmer Mac's third parties that have authorized access to confidential or proprietary information could also inadvertently or erroneously disseminate the information to unauthorized third parties. The risk of unauthorized access to confidential or proprietary information through information system breaches or inadvertent dissemination may be heightened in a remote-working environment, which may be more prevalent due to the COVID-19 pandemic. Any unauthorized access to or dissemination of confidential or proprietary information could result in liability for Farmer Mac or damage Farmer Mac's reputation, either of which could have a negative effect on Farmer Mac's business, operating results, or financial condition.

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 risk 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 liabilities that have similar duration and convexity characteristics so that they will perform similarly as interest rates change. 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. Volatility in market conditions during the past year stemming from the effects of the COVID-19 pandemic prompted the Federal Reserve to significantly lower the target range for the federal funds rate, resulting in an extremely low interest rate environment. A resumption of market volatility from uncertainties surrounding a prolonged pandemic 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.

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 London Interbank Offered Rate known as "LIBOR") will increase from the time the initial funding was issued and the time the liabilities are re-funded. This risk arises from maturity mismatches between assets and liabilities where assets with longer maturities must be re-funded. A significant increase in the difference between Farmer Mac's funding cost relative to the benchmark

index, including LIBOR, could 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 2020 and 2019, Farmer Mac recorded a loss of \$3.7 million and a gain of \$10.1 million, respectively, from changes in the fair values of its financial derivatives as a result of movements in interest rates during those years. In addition, Farmer Mac recorded losses of \$9.2 million and \$7.9 million in 2020 and 2019, 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, 2020, Farmer Mac posted \$11.2 million of cash and \$201.1 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.

The reform, replacement, or discontinuation of the LIBOR benchmark interest rate could adversely affect Farmer Mac's business, operating results, or financial condition.

In July 2017, the United Kingdom's Financial Conduct Authority ("UKFCA"), which regulates U.S. Dollar LIBOR ("LIBOR"), announced that it would no longer persuade or compel banks to submit rates for the calculation of LIBOR after 2021 and would support the LIBOR indexes through 2021 to allow for a transition to any alternative reference rates. In November 2020, the UKFCA and the ICE Benchmark Administration, which administers LIBOR, announced that most tenors of LIBOR would continue to be published through June 2023. These announcements indicate that the continuation of LIBOR in its current form will be discontinued after June 2023. Farmer Mac is evaluating the potential effect on its business of the replacement of the LIBOR benchmark interest rate, including the possibility of replacement benchmark interest rates. As of December 31, 2020, Farmer Mac held \$5.1 billion of floating rate assets in its lines of business and its investment portfolio, had issued \$4.7 billion of floating rate debt, and had

entered into \$14.6 billion notional amount of interest rate swaps, each of which resets based on LIBOR. In addition, Farmer Mac's Series C Preferred Stock will be indexed to LIBOR after July 17, 2024. The market transition away from LIBOR and towards an alternative benchmark interest rate that may be developed is expected to be complicated and may require the development of term and credit adjustments to accommodate for differences between the benchmark interest rates. The introduction of an alternative reference rate may also introduce additional re-funding and repricing risk for Farmer Mac if an alternative benchmark interest rate index is used along with LIBOR during a transition period. If LIBOR is discontinued and an alternative benchmark interest rate does not become widely used or accepted in place of LIBOR, then there may be uncertainty or differences in the calculation of the applicable interest rate or payment amounts depending on the terms of the governing instruments for Farmer Mac's assets and liabilities. This could result in different financial performance for previously booked transactions, require different hedging strategies, or require renegotiation of previously booked transactions, and may affect Farmer Mac's existing transaction data, products, systems, operations and pricing processes, which could adversely affect Farmer Mac's business, operating results, or financial condition.

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, 2020, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at \$7.0 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 29% of total assets and 65% of financial instruments measured at fair value as of December 31, 2020. See "Management's Discussion and Analysis—Critical Accounting Policies—Fair Value Measurement" 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 accounting standards or in applying accounting policies could adversely affect Farmer Mac's business, operating results, financial condition, or capital levels.

Farmer Mac is subject to the requirements of entities that set and interpret the accounting standards governing the preparation of Farmer Mac's consolidated financial statements. These entities, which include the Financial Accounting Standards Board ("FASB"), the SEC, and Farmer Mac's independent registered public accounting firm, may add new accounting standards or change their interpretations of how those standards should be applied. These changes may be difficult to predict and could affect how Farmer Mac records and reports its financial condition and results of operations. In some cases, Farmer Mac could be required to apply a new or revised standard retrospectively, potentially resulting in changes to previously reported financial results. For example, the FASB issued a new accounting standard in 2016, which was effective for Farmer Mac on January 1, 2020, that required entities to measure credit

losses based on an "expected credit loss" approach rather than an "incurred loss" approach previously required under GAAP. The new approach requires entities to measure all expected credit losses for financial assets carried at amortized cost and debt securities classified as available-for-sale, based on historical experience, current conditions, and reasonable forecasts of collectability. This new accounting standard could cause increases and more volatility in Farmer Mac's provision for credit losses and could adversely affect Farmer Mac's business, operating results, financial condition, or capital levels. See Note 2(p) to the consolidated financial statements for more information about this new accounting standard.

Changes in the value or composition of Farmer Mac's investment securities could adversely affect Farmer Mac's business, operating results, financial condition, 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, 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 closing price of the Class C stock ranged from \$43.02 per share to \$83.55 per share during 2020. 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 (including COVID-19), 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 53,700 shares daily during 2020, 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 partners are subject to comprehensive government regulation, and changes to applicable 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. Farmer Mac is therefore exposed to the risk of legal or regulatory penalties; material financial loss including fines, judgments, damages, or settlements; or loss of reputation if it violates applicable laws, regulations, rules, regulatory requests, self-regulatory organization standards, or codes of conduct applicable to its business activities. 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. For example, after the termination of employment of Farmer Mac's former Chief Financial Officer in July 2019 and resignation of Farmer Mac's former Chief Credit Officer in February 2020, Farmer Mac expended significant resources and attention to identify their successors. 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 2. Properties

Farmer Mac maintains its principal office at 1999 K Street, N.W., 4th Floor, Washington, D.C. 20006, under a sublease that began on October 1, 2011 and ends on August 30, 2024. Farmer Mac also maintains one other office location at 9169 Northpark Drive, Johnston, Iowa 50322, under a lease that began on October 1, 2017 and ends on June 30, 2023. Farmer Mac believes that its offices are suitable and adequate for its current and anticipated needs for the near future. Farmer Mac's activities at each property encompass all of its operating segments.

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 for 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 8, 2021, Farmer Mac had 889 registered owners of the Class A voting common stock, 77 registered owners of the Class B voting common stock, and 839 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 19, 2019, Farmer Mac's board of directors declared a dividend of \$0.70 per share on Farmer Mac's common stock payable for first quarter 2019. That dividend was paid quarterly through fourth quarter 2019. On February 24, 2020, Farmer Mac's board of directors declared a dividend of \$0.80 per share on Farmer Mac's common stock payable for first quarter 2020. That dividend was paid quarterly through fourth quarter 2020. On February 23, 2021, Farmer Mac's board of directors declared a dividend of \$0.88 per share on Farmer Mac's common stock payable for first quarter 2021. See "Business—Financing—Equity Issuance" for more information on Farmer Mac's common stock.

The quarterly dividend of \$0.88 per share on all three classes of common stock for first quarter 2021 represents an increase of \$0.08 per common share, or 10%, over the quarterly dividend payout in 2020 and reflects the board's goal to maintain Farmer Mac's common stock dividend payout target as a percentage of annual core earnings at 35%. In deciding to maintain Farmer Mac's common stock dividend payout target, 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

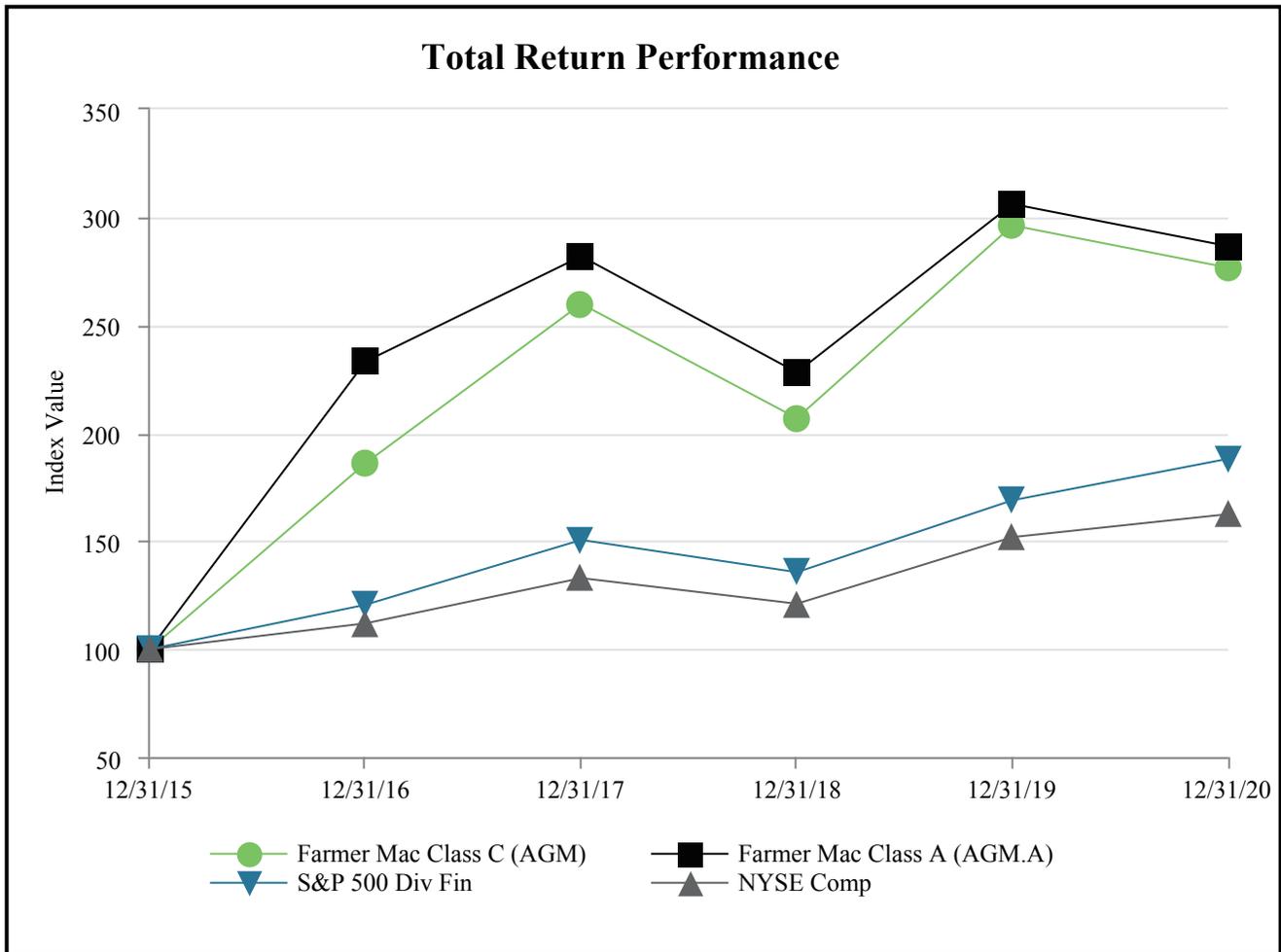
to pay dividends on its common stock is also subject to the payment of dividends on its outstanding preferred stock. Applicable FCA regulations also require Farmer Mac to provide FCA with 15 days' advance notice of certain capital distributions. Farmer Mac's ability to declare and pay dividends could 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 5, 2021. 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 2020 that was not registered under the Securities Act and not otherwise reported on a Current Report on Form 8-K:

- On October 2, 2020, 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 187 shares of Class C non-voting common stock to the four 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 \$63.66 per share, which was the closing price of the Class C non-voting common stock on September 30, 2020, 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 Diversified Financials Index ("S&P 500 Div Fin") over the period from December 31, 2015 to December 31, 2020. The graph assumes that \$100 was invested on December 31, 2015 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 Diversified Financials 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. Selected Financial Data

No longer required. Reference is made to "Item 8—Financial Statements."

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, 2020. Financial information 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, 2020, 2019, and 2018.

Overview

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."

COVID-19 Update

Farmer Mac continues to closely monitor the effects of the COVID-19 pandemic on our financial condition and operations. We have operated uninterrupted and entirely remotely since March 2020, and our liquidity levels remain well above regulatory requirements, which has enabled us to execute our mission to support rural America during the pandemic. During 2020:

- we maintained uninterrupted access to the debt capital markets;
- we provided a total of \$5.7 billion in liquidity and lending capacity to lenders serving rural America;
- we worked with our loan servicers and other partners to respond to and facilitate COVID-19-related payment deferral requests from borrowers and executed COVID-19 payment deferrals for \$432.0 million of unpaid principal balance on Farm & Ranch loans, Farm & Ranch LTSPCs, and USDA Securities to provide relief to borrowers;
- we continued to maintain strong liquidity in our investment portfolio, as evidenced by our year-end cash position of \$1.0 billion; and
- we built and preserved capital and liquidity by issuing net new preferred stock of \$139.5 million and indefinitely suspending our common stock repurchase program.

The economic impacts of the COVID-19 pandemic caused our total allowance for credit losses to remain elevated at the end of 2020. On January 1, 2020, we adopted Accounting Standards Update 2016-13, Financial Instruments - Credit Loss (Topic 326): Measurement of Credit Losses on Financial Instruments ("CECL"). Under CECL, our allowances and reserve for credit losses reflect our estimate of expected losses over the lives of our financial instruments based on historical information and reasonable and supportable forecasts. The economic effects from the COVID-19 pandemic that most affected our estimate of expected credit losses were the effects on credit spreads and expectations for continued elevated levels of unemployment. Of the \$8.1 million credit loss provision that we recorded during 2020, \$1.0 million was attributable to economic factors, mostly related to COVID-19. For more information about the effect of COVID-19 on Farmer Mac's expected credit losses, see "Management's Discussion and

Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans & Guarantees."

For more information about Farm & Ranch payment deferrals, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees." For more information about AgVantage loan collateral payment deferrals, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional."

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,		
	2020	2019	2018
	<i>(in thousands)</i>		
Net income attributable to common stockholders	\$ 89,176	\$ 93,650	\$ 94,898
Core earnings	100,612	93,742	84,047

The \$4.5 million decrease in net income attributable to common stockholders for 2020 compared to 2019 was primarily due to a \$7.5 million after-tax increase in operating expenses, a \$4.4 million after-tax decrease in the fair value of undesignated financial derivatives due to fluctuations in long-term interest rates, a \$3.9 million increase in preferred stock dividends, and a \$3.6 million after-tax increase in the total provision for credit losses. These decreases were partially offset by a \$13.8 million after-tax increase in net interest income and a \$1.3 million after-tax increase in other income.

The \$1.2 million decrease in net income attributable to common stockholders for 2019 compared to 2018 was due to a \$2.5 million after-tax increase in the provision for loan losses, a \$1.6 million after-tax increase in operating expenses, a \$1.0 million after-tax decrease in net interest income, and a \$0.8 million increase in preferred stock dividends. These factors were partially offset by a \$7.1 million after-tax increase in the fair value of undesignated financial derivatives due to fluctuations in long-term interest rates.

The \$6.9 million increase in core earnings for 2020 compared to 2019 was primarily due to a \$22.4 million after-tax increase in net effective spread. This increase was partially offset by a \$7.5 million after-tax increase in operating expenses, a \$3.9 million increase in preferred stock dividends, and a \$3.6 million after-tax increase in the total provision for credit losses.

The \$9.7 million increase in core earnings for 2019 compared to 2018 was primarily due to a \$13.8 million after-tax increase in net effective spread driven by higher business volume, partially offset by a \$2.5 million after-tax increase in the provision for loan losses and a \$1.6 million after-tax increase in operating expenses.

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,		
	2020	2019	2018
	<i>(in thousands)</i>		
Net interest income	\$ 190,588	\$ 173,135	\$ 174,436
Net interest yield %	0.85 %	0.87 %	0.96 %
Net effective spread	196,956	168,608	151,195
Net effective spread %	0.93 %	0.91 %	0.91 %

The \$17.5 million increase in net interest income for 2020 compared to 2019 was primarily due to a \$23.2 million increase related to new business volume. This was partially offset by a \$4.1 million increase in funding and liquidity costs and a \$1.3 million decrease in the fair value of derivatives designated in fair value hedge accounting relationships (designated financial derivatives). In percentage terms, the decrease of 0.02% in net interest income yield was primarily attributable to an increase of 0.05% in funding and liquidity costs and 0.01% in net fair value changes from designated financial derivatives, partially offset by an increase of 0.04% related to new business volume.

The \$1.3 million decrease in net interest income in 2019 compared to 2018 was due to a \$12.8 million decrease in net fair value changes from fair value hedge accounting relationships and a \$5.2 million increase in funding and liquidity costs. These factors were partially offset by \$15.1 million in net new business volume across all lines of business, the change in composition of existing Institutional Credit business volume and \$1.6 million in various interest income fluctuations primarily related to prepayment activity. The 0.09% decrease in percentage terms was primarily attributable to a 0.06% decrease in net fair value changes from fair value hedge accounting relationships and a 0.05% increase in funding and liquidity costs, partially offset by a 0.01% increase from business volume.

The \$28.3 million increase in net effective spread in dollars for 2020 compared to 2019 was primarily due to new business volume, which increased net effective spread by approximately \$23.2 million, and a \$4.6 million decrease in non-GAAP funding costs. In percentage terms, the increase of 0.02% was primarily attributable to new business volume.

The \$17.4 million increase in net effective spread in dollars for 2019 compared to 2018 was due to a \$14.2 million increase from net new business volume across all lines of business, the change in

composition of existing Institutional Credit business volume, a \$1.6 million increase in various interest income fluctuations primarily related to prepayment activity, and a \$1.6 million decrease in non-GAAP funding costs. In percentage terms, net effective spread was 0.91% in both 2019 and 2018, as the increase from the absence of the amortization of \$2.0 million in premium of an interest-only security held in Farmer Mac's investment portfolio (the "Interest-Only Amortization") was offset by the decrease from narrower spreads on liquidity investment securities.

For more information about Farmer Mac's use of net effective spread as a financial measure, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures." For a reconciliation of net interest income to net effective spread, see Table 11 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Business Volume

Our outstanding business volume was \$21.9 billion as of December 31, 2020, a net increase of \$806.2 million from December 31, 2019 after taking into account all new business, maturities, and paydowns on existing assets. This net increase was primarily attributable to net increases of \$804.2 million in Farm & Ranch, \$536.3 million in Rural Utilities, and \$166.5 million in USDA Guarantees. These net increases were partially offset by a net decrease of \$700.9 million in the Institutional Credit line of business.

The \$804.2 million net increase in our Farm & Ranch line of business reflected a \$1.2 billion net increase in outstanding loan purchase volume that was partially offset by net decreases of \$313.9 million in loans held in consolidated trusts and \$95.7 million in loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities.

The \$536.3 million net increase in our Rural Utilities line of business reflected a \$589.1 million net increase in outstanding loan purchase volume that was partially offset by a \$52.9 million net decrease in loans under LTSPCs.

The \$700.9 million net decrease in our Institutional Credit line of business was primarily attributable to maturities of \$2.0 billion in our Institutional Credit line of business that was only partially offset by new 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, 2020	December 31, 2019
	<i>(in thousands)</i>	
Core capital	\$ 1,006,400	\$ 815,437
Capital in excess of minimum capital level required	325,455	196,669

The increase in capital in excess of the minimum capital level required was primarily due to the issuance of the Series E Preferred Stock and Series F Preferred Stock and the increase in retained earnings, partially offset by growth in our outstanding business volume and the redemption of the Series A Preferred Stock.

Current Expected Credit Loss

As noted above, Farmer Mac adopted CECL on January 1, 2020. Under CECL, we estimate and recognize expected credit losses over the lives of our financial assets. We base our estimate of expected losses on historical loss information and reasonable and supportable forecasts. In 2020, our reasonable and supportable forecasts included the impact of the COVID-19 pandemic on economic factors such as credit spreads and unemployment. Thus, our total provision for credit losses during the year ended December 31, 2020 was affected by the ongoing economic effects of the COVID-19 pandemic.

As of December 31, 2020, Farmer Mac's allowance for losses on its on-balance sheet loan portfolio was \$13.8 million (0.16% of all loans), compared to \$10.5 million (0.15% of all loans) as of December 31, 2019. As of January 1, 2020, Farmer Mac recorded a cumulative transition adjustment of \$1.5 million. For the year ended December 31, 2020, Farmer Mac recorded a provision to its allowance for loan losses of \$7.7 million. Farmer Mac also recorded a direct charge-off of \$5.8 million from the allowance. The charge-off was primarily related to a Farm & Ranch agricultural storage & processing loan secured by a specialized poultry facility.

As of December 31, 2020, Farmer Mac's reserve for losses on its off-balance sheet LTSPCs and Guaranteed Securities was \$3.3 million (0.10% of all off-balance sheet LTSPCs and Guaranteed Securities), compared to \$2.2 million (0.06% of all off-balance sheet LTSPCs and Guaranteed Securities) as of December 31, 2019. As of January 1, 2020, Farmer Mac recorded a cumulative transition adjustment of \$0.9 million. For the year ended December 31, 2020, Farmer Mac recorded a provision to its reserve for its off-balance sheet portfolio of \$0.3 million.

Credit Quality

The following table presents Farm & Ranch substandard assets, in dollars and as a percentage of the Farm & Ranch portfolio, for both on- and off-balance sheet assets as of December 31, 2020 and December 31, 2019:

Table 4

	Farm & Ranch Line of Business			
	On-Balance Sheet		Off-Balance Sheet	
	Substandard Assets	% of Portfolio	Substandard Assets	% of Portfolio
	<i>(dollars in thousands)</i>			
December 31, 2020	\$ 180,823	2.9 %	\$ 110,671	4.6 %
December 31, 2019	207,078	3.9 %	102,877	4.1 %
Increase/(decrease) from prior year-ending	\$ (26,255)	(1.0)%	\$ 7,794	0.5 %

The decrease of \$26.3 million in on-balance sheet substandard assets during 2020 was primarily driven by credit upgrades during the year, particularly in permanent plantings, livestock, and crops. The on-balance sheet Farm & Ranch portfolio grew by \$899.9 million which, when coupled with credit upgrades, and charge-offs, caused the percentage of substandard assets to decrease. The \$7.8 million increase in substandard assets in our off-balance sheet Farm & Ranch portfolio during 2020 was primarily due to credit downgrades in the livestock portfolio during the year.

There were no substandard assets in the Rural Utilities portfolio as of both December 31, 2020 and 2019.

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

The following table presents Farm & Ranch 90-day delinquencies, in dollars and as a percentage of the Farm & Ranch portfolio, for both on- and off-balance sheet assets as of December 31, 2020 and December 31, 2019:

Table 5

	Farm & Ranch Line of Business			
	On-Balance Sheet		Off-Balance Sheet	
	90-Day Delinquencies	% of Portfolio	90-Day Delinquencies	% of Portfolio
	<i>(dollars in thousands)</i>			
December 31, 2020	\$ 34,799	0.56 %	\$ 11,433	0.48 %
December 31, 2019	57,719	1.09 %	3,235	0.13 %
Increase/(decrease) from prior year-ending	\$ (22,920)	(0.53)%	\$ 8,198	0.35 %

On-balance sheet Farm & Ranch loans 90 or more days delinquent decreased in permanent plantings, livestock, crops, and part-time farms, offset by an increase in agricultural storage and processing attributable to the single loan secured by a specialized poultry facility. Off-balance sheet Farm & Ranch loans 90 days or more delinquent increased in crops and part-time farms, offset by decreases in livestock and permanent plantings. The top ten borrower exposures over 90 days delinquent in either the on- or off-balance sheet portfolio represented over half of the aggregate 90-day delinquencies as of December 31, 2020.

There were no delinquencies in the Rural Utilities portfolio as of both December 31, 2020 and 2019.

For more information about Farmer Mac's credit metrics, including 90-day delinquencies, the total allowance for losses, and substandard assets, as well as the effects of the COVID-19 pandemic on loan payment deferments, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Critical Accounting Policies and 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. Actual results could differ from those estimates. Farmer Mac views the allowance for losses and fair value measurement as critical accounting policies. Both policies require complex and subjective judgments and are important to the presentation of Farmer Mac's financial condition and results of operations.

Allowance for Losses

On January 1, 2020, Farmer Mac adopted Accounting Standards Update 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, ("CECL"). Under CECL, 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. Under CECL, 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, "allowance for losses"). Additionally, Farmer Mac 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, "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 Utilities line of business. Upon the adoption of CECL, Farmer Mac is now required to measure its expected credit losses for the expected life of all financial instruments, including its Rural Utilities 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 industry.

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 Farm & Ranch, Rural Utilities, and Institutional Credit;
- 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 the company's 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.

COVID-19 Payment Deferments

The Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was signed into law on March 27, 2020. Section 4013 of the CARES Act titled "Temporary Relief from Troubled Debt Restructurings" provides financial institutions the option to temporarily suspend certain requirements under U.S. GAAP related to troubled debt restructurings ("TDRs") for a limited period of time to account for the effects of the COVID-19 pandemic. On April 10, 2020, Farmer Mac's prudential regulator, FCA (through OSMO) issued guidance to Farmer Mac on loan servicing and reporting TDRs for lines of business affected by the COVID-19 outbreak. This guidance was consistent with the guidance provided by other financial regulatory agencies and the Financial Accounting Standards Board that short-term modifications made on a good faith basis in response to the COVID-19 national emergency are not TDRs when the borrower was not past due on loan payments before the March 13, 2020 presidential proclamation declaring the COVID-19 outbreak a national emergency.

During second quarter 2020, Farmer Mac implemented the guidance from FCA by granting up to 6-month payment deferments to borrowers who have been economically impacted by the COVID-19 pandemic. Farmer Mac deems loans under a COVID-19 payment deferment not to be past due and continues to accrue interest on those loans. Furthermore, Farmer Mac does not consider a payment deferment on any such loan to be a troubled debt restructuring. In estimating expected credit losses on Farm & Ranch loans held for investment, Farmer Mac does consider payment deferments along with other available credit and economic information that pertains to that portfolio.

More information about the allowance for losses is included in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees" and Note 2(g) to the consolidated financial statements.

Fair Value Measurement

A significant portion of Farmer Mac's assets consists of financial instruments that are measured at fair value in the consolidated balance sheets. For financial instruments that are complex in nature or for which observable inputs are not available, the measurement of fair value requires management to make significant judgments and assumptions. These judgments and assumptions, as well as changes in market conditions, may have a material effect on the consolidated balance sheets and statements of operations.

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 (also referred to as an exit price) and establishes a hierarchy for ranking fair value measurements. In determining fair value, Farmer Mac uses various valuation approaches, including market and income approaches. The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. 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.

When observable market prices are not readily available, Farmer Mac estimates fair value using techniques that rely on alternate market data or internally developed models using significant inputs that are generally less readily observable. Market data includes prices of financial instruments with similar maturities and characteristics, interest rate yield curves, measures of volatility, and prepayment rates. If market data needed to estimate fair value is not available, Farmer Mac estimates fair value using

internally-developed models that employ a discounted cash flow approach. Even when market assumptions are not readily available, Farmer Mac's assumptions reflect those that market participants would likely use in pricing the asset or liability at the measurement date.

Farmer Mac's assets and liabilities presented at fair value in the consolidated balance sheets on a recurring basis include investment securities, Farmer Mac Guaranteed Securities, and financial derivatives. The changes in fair value from period to period are recorded either in the consolidated statements of comprehensive income as other comprehensive (loss)/income, net of tax or in the consolidated statements of operations as gains/(losses) on financial derivatives, net interest income, or gains/(losses) on trading assets.

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 hierarchy has the following three levels 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.

As of December 31, 2020, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at \$7.0 billion whose fair values were estimated by management in the absence of readily determinable fair values (i.e., level 3). These financial instruments measured as level 3 represented 29% of total assets and 65% of financial instruments measured at fair value as of December 31, 2020.

See Note 13 to the consolidated financial statements for more information about fair value measurement.

Use of Non-GAAP Measures

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

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

Core Earnings and Core Earnings Per Share

The main difference between core earnings and core earnings per share (non-GAAP measures) and net income attributable to common stockholders and earnings per common share (GAAP measures) is that those non-GAAP measures exclude the effects of fair value fluctuations. These fluctuations are not expected to have a cumulative net impact on Farmer Mac's financial condition or results of operations reported in accordance with GAAP if the related financial instruments are held to maturity, as is expected. Another difference is that these two non-GAAP measures exclude specified infrequent or unusual transactions that we believe are not indicative of future operating results and that may not reflect the trends and economic financial performance of Farmer Mac's core business. For example, we have excluded from core earnings and core earnings per share any losses on retirement of preferred stock. For a reconciliation of Farmer Mac's net income attributable to common stockholders to core earnings and of earnings per common share to core earnings per share, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations."

Net Effective Spread

Farmer Mac uses net effective spread to measure the net spread Farmer Mac earns between its interest-earning assets and the related net funding costs of these assets. As further explained below, net effective spread differs from net interest income and net interest yield by excluding certain items from net interest income and net interest yield and including certain other items that net interest income and net interest yield do not contain.

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

Net effective spread also 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 "(Losses)/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 11 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Results of Operations

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

Table 6

Reconciliation of Net Income Attributable to Common Stockholders to Core Earnings

	For the Year Ended December 31,		
	2020	2019	2018
	<i>(in thousands, except per share amounts)</i>		
Net income attributable to common stockholders	\$ 89,176	\$ 93,650	\$ 94,898
Less reconciling items:			
(Losses)/gains on undesignated financial derivatives due to fair value changes (see Table 14)	(3,691)	10,077	7,959
(Losses)/gains on hedging activities due to fair value changes	(10,019)	(9,010)	4,449
Unrealized gains on trading securities	51	326	81
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	58	(122)	(461)
Net effects of terminations or net settlements on financial derivatives	1,236	1,089	1,708
Issuance costs on the retirement of preferred stock	(1,667)	(1,956)	—
Income tax effect related to reconciling items	2,596	(496)	(2,885)
Sub-total	(11,436)	(92)	10,851
Core earnings	\$ 100,612	\$ 93,742	\$ 84,047
Composition of Core Earnings:			
Revenues:			
Net effective spread ⁽¹⁾	\$ 196,956	\$ 168,608	\$ 151,195
Guarantee and commitment fees ⁽²⁾	19,150	21,335	20,733
Other ⁽³⁾	2,687	1,775	520
Total revenues	218,793	191,718	172,448
Credit related expense (GAAP):			
Provision for losses	8,055	3,501	335
REO operating expenses	—	64	16
(Gains)/losses on sale of REO	(463)	—	7
Total credit related expense	7,592	3,565	358
Operating expenses (GAAP):			
Compensation and employee benefits	36,502	28,762	27,534
General and administrative	21,976	20,311	19,707
Regulatory fees	2,925	2,788	2,562
Total operating expenses	61,403	51,861	49,803
Net earnings	149,798	136,292	122,287
Income tax expense ⁽⁴⁾	31,381	28,610	25,058
Preferred stock dividends (GAAP)	17,805	13,940	13,182
Core earnings	\$ 100,612	\$ 93,742	\$ 84,047
Core earnings per share:			
Basic	\$ 9.38	\$ 8.76	\$ 7.89
Diluted	9.33	8.70	7.82
Weighted-average shares:			
Basic	10,728	10,696	10,654
Diluted	10,786	10,778	10,746

⁽¹⁾ Net effective spread is a non-GAAP measure. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread" for an explanation of net effective spread. See Table 11 for a reconciliation of net interest income to net effective spread.

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

Table 7

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

	For the Year Ended December 31,		
	2020	2019	2018
GAAP - Basic EPS	\$ 8.31	\$ 8.76	\$ 8.91
Less reconciling items:			
(Losses)/gains on undesignated financial derivatives due to fair value changes (see Table 14)	(0.34)	0.94	0.75
(Losses)/gains on hedging activities due to fair value changes	(0.94)	(0.83)	0.41
Unrealized gains on trading securities	—	0.03	0.01
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	0.01	(0.01)	(0.04)
Net effects of terminations or net settlements on financial derivatives	0.12	0.10	0.16
Issuance costs on the retirement of preferred stock	(0.16)	(0.18)	—
Income tax effect related to reconciling items	0.24	(0.05)	(0.27)
Sub-total	(1.07)	—	1.02
Core Earnings - Basic EPS	\$ 9.38	\$ 8.76	\$ 7.89
Shares used in per share calculation (GAAP and Core Earnings)	10,728	10,696	10,654

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

	For the Year Ended December 31,		
	2020	2019	2018
GAAP - Diluted EPS	\$ 8.27	\$ 8.69	\$ 8.83
Less reconciling items:			
(Losses)/gains on undesignated financial derivatives due to fair value changes (see Table 14)	(0.34)	0.93	0.74
(Losses)/gains on hedging activities due to fair value changes	(0.93)	(0.83)	0.41
Unrealized gains on trading securities	—	0.03	0.01
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	0.01	(0.01)	(0.04)
Net effects of terminations or net settlements on financial derivatives	0.11	0.10	0.16
Issuance costs on the retirement of preferred stock	(0.15)	(0.18)	—
Income tax effect related to reconciling items	0.24	(0.05)	(0.27)
Sub-total	(1.06)	(0.01)	1.01
Core Earnings - Diluted EPS	\$ 9.33	\$ 8.70	\$ 7.82
Shares used in per share calculation (GAAP and Core Earnings)	10,786	10,778	10,746

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

1. Losses on financial derivatives due to fair value changes are presented by two reconciling items in Table 6 above: (a) (Losses)/gains on undesignated financial derivatives due to fair value changes; and (b) Losses on hedging activities due to fair value changes. The table below calculates the non-GAAP reconciling item for losses on hedging activities due to fair value changes:

Table 8

	Non-GAAP Reconciling Items for (Losses)/Gains on Hedging Activities due to Fair Value Changes		
	For the Year Ended December 31,		
	2020	2019	2018
(Losses)/gains due to fair value changes (see Table 6.2)	\$ (9,184)	\$ (7,907)	\$ 4,941
Initial cash payment (received) at inception of swap	(835)	(1,103)	(492)
(Losses)/gains on hedging activities due to fair value changes	\$ (10,019)	\$ (9,010)	\$ 4,449

2. Unrealized gains on trading securities. The unrealized gains/(losses) on trading securities are reported on Farmer Mac's consolidated statements of operations, which represent changes during the period in fair values for trading assets remaining on Farmer Mac's balance sheet as of the end of the reporting period.
3. The net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value. The amount of this non-GAAP reconciling item is the recorded amount of premium, discount, or deferred gain amortization during the reporting period on those assets for which the premium, discount, or deferred gain was based on the application of an accounting principle (e.g., consolidation of variable interest entities) rather than on a cash transaction (e.g., a purchase price premium or discount).
4. The net effects of terminations or net settlements on financial derivatives. These terminations or net settlements relate to:
 - Forward contracts on the debt of other GSEs and futures contracts on U.S. Treasury securities. These contracts are used as a short-term economic hedge of the issuance of debt. For GAAP purposes, realized gains or losses on settlements of these contracts are reported in the consolidated statements of operations in the period in which they occur. For core earnings purposes, these realized gains or losses are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years.
 - Initial cash payments received by Farmer Mac upon the inception of certain swaps. When there is no direct payment arrangement between a swap dealer counterparty and a debt dealer issuing Farmer Mac's medium-term notes for a particular transaction, Farmer Mac may receive an initial cash payment from the swap dealer at the inception of the swap to offset dollar-for-dollar the amount of the discount on the associated hedged debt. For GAAP purposes, changes in fair value of the swaps are recognized in "Gains on financial derivatives," while the economically offsetting discount on the associated hedged debt is amortized over the term of the debt as an adjustment to its yield. For purposes of core earnings, these initial cash payments are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years.
5. The recognition of deferred issuance costs on the retirements of the Series A Preferred Stock in third quarter 2020 and Series B Preferred Stock in second quarter 2019 has been excluded from core earnings because they are not frequently occurring transactions, nor are they indicative of future operating results.

This is consistent with Farmer Mac's previous treatment of deferred issuance costs associated with the retirement of preferred stock. The next eligible preferred stock redemption date is in third quarter 2024.

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, 2020, 2019, and 2018. The average balance of non-accruing loans is included in the average balance of loans, Farmer Mac Guaranteed Securities, and USDA Securities presented, though the related income is accounted for on a cash basis. Therefore, as the average balance of non-accruing loans and the income received increases or decreases, the net interest income and yield will fluctuate accordingly. The average balance of loans in consolidated trusts with beneficial interests owned by third parties is disclosed in the net effect of consolidated trusts and is not included in the average balances of interest-earning assets and interest-bearing liabilities. The interest income and expense associated with these trusts are shown in the net effect of consolidated trusts.

Table 9

	For the Year Ended								
	December 31, 2020			December 31, 2019			December 31, 2018		
	Average Balance	Income/Expense	Average Rate	Average Balance	Income/Expense	Average Rate	Average Balance	Income/Expense	Average Rate
<i>(dollars in thousands)</i>									
Interest-earning assets:									
Cash and investments	\$ 4,180,158	\$ 42,144	1.01 %	\$ 3,218,286	\$ 81,522	2.53 %	\$ 2,723,136	\$ 55,179	2.03 %
Loans, Farmer Mac Guaranteed Securities and USDA Securities ⁽¹⁾	16,950,819	407,296	2.40 %	15,214,248	502,694	3.30 %	13,917,222	434,585	3.12 %
Total interest-earning assets	21,130,977	449,440	2.13 %	18,432,534	584,216	3.17 %	16,640,358	489,764	2.94 %
Funding:									
Notes payable due within one year	3,937,104	24,242	0.62 %	3,758,256	86,031	2.29 %	3,412,019	62,447	1.83 %
Notes payable due after one year ⁽²⁾	16,869,918	241,211	1.43 %	14,116,085	332,719	2.36 %	12,501,093	259,638	2.08 %
Total interest-bearing liabilities ⁽³⁾	20,807,022	265,453	1.28 %	17,874,341	418,750	2.34 %	15,913,112	322,085	2.02 %
Net non-interest-bearing funding	323,955	—		558,193	—		727,246	—	
Total funding	21,130,977	265,453	1.26 %	18,432,534	418,750	2.27 %	16,640,358	322,085	1.94 %
Net interest income/yield prior to consolidation of certain trusts	21,130,977	183,987	0.87 %	18,432,534	165,466	0.90 %	16,640,358	167,679	1.01 %
Net effect of consolidated trusts ⁽⁴⁾	1,396,850	6,601	0.47 %	1,544,052	7,669	0.50 %	1,443,394	6,757	0.47 %
Net interest income/yield	<u>\$22,527,827</u>	<u>\$ 190,588</u>	0.85 %	<u>\$19,976,586</u>	<u>\$ 173,135</u>	0.87 %	<u>\$18,083,752</u>	<u>\$ 174,436</u>	0.96 %

(1) Excludes interest income of \$54.1 million, \$60.9 million, and \$54.5 million in 2020, 2019, and 2018, respectively, related to consolidated trusts with beneficial interests owned by third parties.

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

(3) Excludes interest expense of \$47.5 million, \$53.2 million, and \$47.8 million in 2020, 2019, and 2018, respectively, related to consolidated trusts with beneficial interests owned by third parties.

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

For 2020 compared to 2019, the \$17.5 million increase in net interest income was primarily due to net business volume growth across most lines of business, which contributed \$23.2 million to net interest income. This was partially offset by a \$4.1 million increase in funding and liquidity costs and a decrease of \$1.3 million in net fair value changes from designated financial derivatives as a result of fluctuations in interest rates. In percentage terms, the decrease of 0.02% in net interest income yield was primarily attributable to an increase of 0.05% in funding and liquidity costs and 0.01% in net fair value changes from designated financial derivatives, partially offset by an increase of 0.04% related to new business volume.

For 2019 compared to 2018, the \$1.3 million decrease in net interest income was due to a \$12.8 million decrease in net fair value changes from fair value hedge accounting relationships, a \$5.2 million increase in funding and liquidity costs and a \$1.7 million decrease in cash-basis interest income. These factors were partially offset by:

- 1) \$15.1 million from business volume, including:
 - \$12.3 million in new business volume,
 - \$1.9 million from the refinancing of existing Institutional Credit business volume at higher spreads,
 - and \$0.9 million from consolidated trusts; and
- 2) \$3.4 million in interest income fluctuations, including:
 - the absence of \$2.0 million from the Interest-Only Amortization, and
 - the receipt of a \$1.4 million prepayment penalty.

The decrease of 0.09% was primarily attributable to a decrease of 0.06% in net fair value changes from designated financial derivatives and an increase of 0.05% in funding and liquidity costs, partially offset by an increase of 0.01% from business volume.

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

Table 10

	2020 vs. 2019			2019 vs. 2018		
	Increase/(Decrease) Due to			Increase/(Decrease) Due to		
	Rate	Volume	Total	Rate	Volume	Total
	<i>(in thousands)</i>					
Income from interest-earning assets:						
Cash and investments	\$ (58,877)	\$ 19,499	\$ (39,378)	\$ 15,253	\$ 11,090	\$ 26,343
Loans, Farmer Mac Guaranteed Securities and USDA Securities	(148,159)	52,761	(95,398)	26,158	41,951	68,109
Total	(207,036)	72,260	(134,776)	41,411	53,041	94,452
Expense from other interest-bearing liabilities						
	(213,715)	60,418	(153,297)	54,225	42,440	96,665
Change in net interest income prior to consolidation of certain trusts ⁽¹⁾	\$ 6,679	\$ 11,842	\$ 18,521	\$ (12,814)	\$ 10,601	\$ (2,213)

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

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

Table 11

	For the Years Ended December 31,					
	2020		2019		2018	
	Dollars	Yield	Dollars	Yield	Dollars	Yield
Net interest income/yield	\$ 190,588	0.85 %	\$ 173,135	0.87 %	\$ 174,436	0.96 %
Net effects of consolidated trusts	(6,601)	0.02 %	(7,669)	0.03 %	(6,757)	0.04 %
Expense related to undesignated financial derivatives	3,468	0.02 %	(5,095)	(0.03)%	(11,685)	(0.07)%
Amortization of premiums/discounts on assets consolidated at fair value	197	— %	398	— %	417	0.01 %
Amortization of losses due to terminations or net settlements on financial derivatives	120	— %	(68)	— %	(275)	— %
Fair value changes on fair value hedge relationships	9,184	0.04 %	7,907	0.04 %	(4,941)	(0.03)%
Net effective spread	<u>\$ 196,956</u>	<u>0.93 %</u>	<u>\$ 168,608</u>	<u>0.91 %</u>	<u>\$ 151,195</u>	<u>0.91 %</u>

For 2020 compared to 2019, the \$28.3 million increase in net effective spread in dollars was primarily due to net business volume growth across most lines of business, which contributed \$23.2 million to net effective spread, and a \$4.6 million decrease in non-GAAP funding costs. In percentage terms, the increase of 0.02% was primarily attributable to new business volume.

For 2019 compared to 2018, the \$17.4 million increase in net effective spread in dollars was due to:

- 1) \$14.2 million increase from business volume, including:
 - \$12.3 million in net new business volume,
 - \$1.9 million from the refinancing of existing Institutional Credit business volume at higher spreads;
- 2) \$1.6 million in interest income fluctuations, including:
 - the absence of \$2.0 million from the Interest-Only Amortization,
 - the receipt of a \$1.4 million prepayment penalty,
 - partially offset by a \$1.7 million decrease in cash-basis interest income; and
- 3) \$1.6 million decrease in non-GAAP funding costs.

In percentage terms, net effective spread remained at 0.91% in both 2019 and 2018 primarily because the increase from the absence of the Interest-Only Amortization was offset by the decrease from narrower spreads on liquidity investment securities.

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 each year in the three-year period ended December 31, 2020:

Table 12

	Allowance for Losses	Reserve for Losses	Total Allowance for Losses
	<i>(in thousands)</i>		
Balance as of January 1, 2018	\$ 6,796	\$ 2,070	\$ 8,866
Provision for losses	238	97	335
Charge-offs	(17)	—	(17)
Balance as of December 31, 2018	\$ 7,017	\$ 2,167	\$ 9,184
Provision for/(release of) losses	3,504	(3)	3,501
Charge-offs	(67)	—	(67)
Balance as of December 31, 2019	\$ 10,454	\$ 2,164	\$ 12,618
Cumulative effect adjustment from adoption of current expected credit loss standard	1,793	863	2,656
Adjusted beginning balance	12,247	3,027	15,274
Provision for/(release of) losses	7,810	250	8,060
Charge-offs	(5,759)	—	(5,759)
Ending balance	\$ 14,298	\$ 3,277	\$ 17,575

During 2020, the allowance and reserve for losses was impacted by the cumulative transition adjustment that we recorded related to the adoption of CECL and provisions for changes in risk ratings, economic factors, and net business volume growth during the year.

The cumulative effect adjustment from the adoption of CECL on January 1, 2020 was \$2.7 million and was recorded directly to retained earnings, net of tax. The transition adjustment was the difference between (1) the total allowance for losses on December 31, 2019 that reflected probable incurred losses under the previous accounting standard and (2) the total allowance for losses on January 1, 2020 that reflected expected losses under CECL.

The cumulative effect adjustment for credit losses on on-balance sheet assets was \$1.8 million after an increase of \$5.4 million to the allowance for losses on Rural Utilities loans and Farmer Mac Guaranteed Securities and a \$3.6 million decrease in the allowance for losses on Farm & Ranch loans and Farmer Mac Guaranteed Securities. Although Farmer Mac has never experienced any credit losses in its portfolio of Rural Utilities loans and Farmer Mac Guaranteed Securities, our estimate of expected losses is based upon reasonable and supportable forecasts over the expected lives of these assets. The cumulative effect of CECL on the Farm & Ranch portfolio was a reduction in the allowance for losses on those loans and

Farmer Mac Guaranteed Securities that reflected the expected recovery rate based on loan-to-value ratios in those portfolios.

The cumulative effect adjustment for credit losses on LTSPCs was \$0.9 million after an increase of \$1.0 million on Rural Utilities LTSPCs and a decrease of \$0.1 million on Farm & Ranch LTSPCs.

Our estimates of expected losses are based on historical information and reasonable and supportable forecasts. Our reasonable and supportable forecasts incorporate economic factor forecasts and are sensitive to changes in those economic factor forecasts. As of December 31, 2020, our forecasts included the effects of the COVID-19 pandemic on economic factors such as land values, gross domestic product, credit spreads, and unemployment expectations. The economic factor related to unemployment expectations had the most significant impact on our 2020 provision for credit losses, particularly on our estimate of expected losses in the Rural Utilities portfolio. Unemployment expectations did not affect our estimate of expected losses on the Farm & Ranch portfolio as much because of stable farm land values and improved credit quality in the Farm & Ranch portfolio during the year. The provision to Farmer Mac's allowance for losses for on-balance sheet assets was \$7.8 million during 2020, reflecting \$4.7 million for expected losses on Rural Utilities loans and a provision of \$3.0 million on Farm & Ranch loans and Farmer Mac Guaranteed Securities.

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."

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, 2020, 2019, and 2018:

Table 13

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Guarantee and commitment fees	\$ 12,549	\$ 13,666	\$ 13,976

In Farmer Mac's presentation of core earnings, guarantee and commitment fees include interest income and interest expense related to consolidated trusts owned by third parties to reflect management's view that the net interest income Farmer Mac earns is effectively a guarantee fee on the consolidated Farmer Mac Guaranteed Securities. The decrease in guarantee and commitment fees for the year ended December 31, 2020 compared to 2019 was primarily due to decreased LTSPC volume. As adjusted for the core earnings presentation, guarantee and commitment fees were \$19.2 million for 2020, compared to \$21.3 million and \$20.7 million for 2019 and 2018, respectively.

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

(Losses)/gains on financial derivatives. The components of gains and losses on financial derivatives for the years ended December 31, 2020, 2019, and 2018 are summarized in the following table:

Table 14

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
(Losses)/gains due to fair value changes	\$ (3,691)	\$ 10,077	\$ 7,958
Accrual of contractual payments	3,468	(5,095)	(11,685)
(Losses)/gains due to terminations or net settlements	(23)	300	40
(Losses)/gains on financial derivatives	<u>\$ (246)</u>	<u>\$ 5,282</u>	<u>\$ (3,687)</u>

These changes in fair value are primarily the result of fluctuations in long-term interest rates. The accrual of periodic cash settlements for interest paid or received from Farmer Mac's interest rate swaps that are undesignated financial derivatives is shown as expense related to financial derivatives. Payments or receipts to terminate undesignated derivative positions or net cash settled forward sales contracts on the debt of other GSEs and undesignated U.S. Treasury security futures and initial cash payments received upon the inception of certain undesignated swaps are included in "(Losses)/gains due to terminations or net settlements" in the table above. For undesignated swaps, when there is no direct payment arrangement between a swap dealer counterparty and a debt dealer issuing Farmer Mac's medium-term notes for a particular transaction, Farmer Mac may receive an initial cash payment from the swap dealer at the inception of the swap to offset dollar-for-dollar the amount of the discount on the associated hedged debt. Changes in the fair value of these swaps are recognized immediately in "(Losses)/gains on financial derivatives," while the offsetting discount on the hedged debt is amortized over the term of the debt as an adjustment to its yield. The amounts of initial cash payments received by Farmer Mac vary depending on the number of the aforementioned type of swaps it executes during a quarter.

Other Income. The following table presents other income for years ended December 31, 2020, 2019, and 2018:

Table 15

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Late fees	\$ 1,292	\$ 1,135	\$ 1,258
Other	2,195	769	119
Total other income	<u>\$ 3,487</u>	<u>\$ 1,904</u>	<u>\$ 1,377</u>

The increase in other fees is primarily due to an increase in the fees received from borrowers to modify their long-term fixed borrowing rate to a new lower rate.

Operating Expenses. The components of operating expenses for the years ended December 31, 2020, 2019, and 2018 are summarized in the following table:

Table 16

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Compensation and employee benefits	\$ 36,502	\$ 28,762	\$ 27,534
General and administrative	21,976	20,311	19,707
Regulatory fees	2,925	2,788	2,562
Total Operating Expenses	<u>\$ 61,403</u>	<u>\$ 51,861</u>	<u>\$ 49,803</u>

- a. Compensation and Employee Benefits. The increase in compensation and employee benefits expenses for 2020 compared to 2019 was primarily due to increased headcount in the current period, higher bonus expense, and severance payments made to an executive who resigned in first quarter 2020. The increase in compensation and employee benefits in 2019 compared to 2018 was primarily due to hiring of executives and related employee health insurance costs.
- b. General and Administrative Expenses (G&A). The increase in G&A expenses for 2020 compared to 2019 was primarily due to increased spending on software licenses and information technology consultants to support growth and strategic initiatives. The increase in G&A expenses in 2019 compared to 2018 was due to various growth, strategic, and compliance initiatives in 2019.

Income Tax Expense. The following table presents income tax expense and the effective income tax rate for the years ended December 31, 2020, 2019, and 2018:

Table 17

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(dollars in thousands)</i>		
Income tax expense	\$ 28,785	\$ 29,105	\$ 27,942
Effective tax rate	20.9 %	20.9 %	20.5 %

Business Volume.

The following table sets forth the net growth or decrease under Farmer Mac's lines of business for the years ended December 31, 2020, 2019, and 2018:

Table 18

Net New Business Volume – Farmer Mac Loan Purchases, Guarantees, LTSPCs, and AgVantage Securities			
	For the Years Ended December 31,		
	2020	2019	2018
	Net Growth/ (Decrease)	Net Growth/ (Decrease)	Net Growth/ (Decrease)
<i>(in thousands)</i>			
Farm & Ranch:			
Loans	\$ 1,213,754	\$ 604,418	\$ 272,316
Loans held in trusts:			
Beneficial interests owned by third party investors	(313,872)	83,816	117,273
LTSPCs	(95,650)	(145,257)	(23,204)
USDA Guarantees:			
USDA Securities	256,461	83,023	52,537
Farmer Mac Guaranteed USDA Securities	(89,918)	21,532	110,870
Rural Utilities:			
Loans	589,119	732,450	(137,448)
LTSPCs	(52,853)	(43,994)	(153,069)
Institutional Credit:			
AgVantage securities	(700,887)	357,429	477,939
AgVantage revolving line of credit facility ⁽¹⁾	—	(300,000)	—
Total purchases, guarantees, LTSPCs, and AgVantage securities	\$ 806,154	\$ 1,393,417	\$ 717,214

⁽¹⁾ During 2019, the facility was drawn on two separate occurrences for \$100.0 million and \$150.0 million and later repaid. During 2018, \$100.0 million of this facility was drawn and later repaid. The facility was terminated during fourth quarter 2019.

Our outstanding business volume was \$21.9 billion as of December 31, 2020, a net increase of \$806.2 million from December 31, 2019 after taking into account all new business, maturities, and repayments on existing assets. This net increase was primarily attributable to net increases of \$804.2 million in Farm & Ranch, \$536.3 million in Rural Utilities, and \$166.5 million in USDA Guarantees. The net increases were partially offset by a net decrease of \$700.9 million in the Institutional Credit line of business.

The \$804.2 million net increase in our Farm & Ranch line of business reflected a \$1.2 billion net increase in outstanding loan purchase volume that was partially offset by net decreases of \$313.9 million in loans held in consolidated trusts and \$95.7 million in loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities. Included in the \$1.2 billion net increase in outstanding loan purchase volume is a growing proportion of larger loan exposures (generally loan commitments more than \$10 million) to agribusinesses that support agriculture production, food and fiber processing, and other supply chain production. The net growth in 2020 reflected our ability to retain borrowers in a decreasing interest rate environment by proactively engaging with borrowers and adjusting their rates and loan sizes to reflect current market conditions and their specific funding needs. We broadened and deepened our market share as evidenced by gross new loan purchase volume increasing 82%, or \$1.1 billion, versus 2019. Of this gross new loan purchase volume, 80% is attributable to active lenders (lenders selling Farmer Mac volume in 2020 and 2019) and 20% is attributable to new or previously inactive lenders. We

deepened our relationship with our lenders as evidenced by an 80% increase in the number of lenders selling us loans totaling \$1 million or more versus the prior year period. Our net growth of 17.1% in the Farm & Ranch on-balance sheet portfolio over the twelve months ended December 31, 2020 is significantly higher than the 5.0% net growth of the overall agricultural mortgage loan market over the twelve months ended September 30, 2020 (based on our analysis of bank and Farm Credit System call report data). During 2020, Farmer Mac syndicated a \$15.0 million position of a newly purchased \$59.2 million agricultural loan. This transaction represents new activity for Farmer Mac to broaden its relationships across the agricultural lending spectrum.

Our USDA Guarantees line of business grew by \$166.5 million in 2020. Our gross volume of \$777.9 million was the highest gross volume that we have ever recorded in any calendar year. This growth reflected the positive effect of adjustments that we made to our product structure in the second half of 2019 to more effectively meet customer demands in an increasingly competitive environment and in response to increased USDA loan limits permitted by the 2018 Farm Bill.

The \$700.9 million net decrease in the Institutional Credit line of business during 2020 was due primarily to three large counterparties who reduced their amount of outstanding credit in connection with scheduled maturities and payments on multiple AgVantage bonds. The year-over-year changes in AgVantage securities volume are primarily driven by the generally larger transaction sizes for that product, scheduled maturity amounts, the liquidity needs of Farmer Mac's AgVantage counterparties, and changes in the pricing and availability of wholesale funding.

The \$536.3 million net increase in our Rural Utilities line of business reflected a \$589.1 million net increase in outstanding loan purchase volume that was partially offset by a \$52.9 net decrease in loans under LTSPCs. During 2020, we funded \$64.3 million of loans for solar and wind projects as part of our renewable energy strategic initiative.

The level and composition of Farmer Mac's outstanding business volume is based on the relationship between new business, maturities, and repayments on existing assets from quarter to quarter. This relationship in turn depends on a variety of factors both internal and external to Farmer Mac. The external factors include general market forces, competition, and our counterparties' liquidity needs, access to alternative funding, desired products, and assessment of strategic factors. The internal factors include our assessment of profitability, mission fulfillment, credit risk, and customer relationships. For more information about potential growth opportunities in Farmer Mac's lines of business, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Outlook" in this report.

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

Table 19

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Loans securitized and sold as Farm & Ranch Guaranteed Securities	\$ 165,054	\$ 263,561	\$ 255,078
Farmer Mac Guaranteed USDA Securities	—	57,853	127,851
AgVantage securities	1,298,751	2,258,550	3,010,307
Total Farmer Mac Guaranteed Securities Issuances	<u>\$ 1,463,805</u>	<u>\$ 2,579,964</u>	<u>\$ 3,393,236</u>

Farmer Mac either retains the loans it purchases or securitizes them and retains or sells Farmer Mac Guaranteed Securities backed by those loans. The weighted-average age of the Farm & Ranch non-delinquent eligible loans purchased and retained (excluding the purchases of defaulted loans) during both 2020 and 2019 was less than one year. Of those loans, 45% and 50% had principal amortization periods longer than the maturity date, resulting in balloon payments at maturity, with a weighted-average remaining term to maturity of 19.8 years and 14.2 years for each period, respectively.

During 2020 and 2019, Farmer Mac securitized some of the Farm & Ranch loans it had purchased and sold the resulting Farmer Mac Guaranteed Securities, as shown above. During 2020 and 2019, Farmer Mac realized no gains or losses from the sale of Farmer Mac Guaranteed Securities or USDA Securities. Farmer Mac consolidates these loans and presents them as "Loans held for investment in consolidated trusts, at amortized cost" on the consolidated balance sheets. For 2020, 2019 and 2018, \$41.2 million, \$163.1 million and \$68.7 million, respectively, of Farmer Mac Guaranteed Securities were sold to a related party (related by virtue of its owning more than 10% of Farmer Mac's Class A voting common stock).

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

Table 20

Lines of Business - Outstanding Business Volume			
	As of December 31,		
	2020	2019	2018
<i>(in thousands)</i>			
Farm & Ranch:			
Loans	\$ 4,889,393	\$ 3,675,640	\$ 3,071,222
Loans held in trusts:			
Beneficial interests owned by third party investors	1,287,045	1,600,917	1,517,101
LTSPCs	2,325,431	2,393,071	2,509,787
Guaranteed Securities	79,312	107,322	135,862
USDA Guarantees:			
USDA Securities	2,452,964	2,199,072	2,120,553
Farmer Mac Guaranteed USDA Securities	333,754	421,103	395,067
Rural Utilities:			
Loans	2,260,412	1,671,293	938,843
LTSPCs	556,425	609,278	653,272
Institutional Credit			
AgVantage Securities	7,739,359	8,440,246	8,082,817
Revolving floating rate AgVantage facility ⁽¹⁾	—	—	300,000
Total	\$ 21,924,095	\$ 21,117,942	\$ 19,724,524

⁽¹⁾ During 2019, the facility was drawn on two separate occurrences for \$100.0 million and \$150.0 million and later repaid. During 2018, \$100.0 million of this facility was drawn and later repaid. The facility was terminated during fourth quarter 2019.

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, 2020:

Table 21

Schedule of Principal Amortization as of December 31, 2020

	Loans Held	Loans Underlying Off-Balance Sheet Farmer Mac Guaranteed Securities and LTSPCs	USDA Securities and Farmer Mac Guaranteed USDA Securities	Total
	<i>(in thousands)</i>			
2021	\$ 354,984	\$ 253,508	\$ 117,226	\$ 725,718
2022	343,208	230,490	121,173	694,871
2023	356,542	209,665	125,543	691,750
2024	350,961	185,040	123,667	659,668
2025	384,864	188,737	126,479	700,080
Thereafter	6,646,291	1,893,728	2,172,630	10,712,649
Total	<u>\$ 8,436,850</u>	<u>\$ 2,961,168</u>	<u>\$ 2,786,718</u>	<u>\$ 14,184,736</u>

Of the \$21.9 billion outstanding principal balance of volume included in Farmer Mac's four lines of business as of December 31, 2020, \$7.7 billion were AgVantage securities included in the Institutional Credit line of business. Unlike business volume in the form of purchased loans, USDA Securities, and loans underlying LTSPCs and non-AgVantage Farmer Mac Guaranteed Securities, most AgVantage securities do not require periodic payments of principal based on amortization schedules and instead have fixed maturity dates when the secured general obligation is due. The following table summarizes by maturity date the outstanding principal amount of both on- and off-balance sheet AgVantage securities as of December 31, 2020:

Table 22

AgVantage Balances by Year of Maturity

	As of December 31, 2020
	<i>(in thousands)</i>
2021	\$ 1,823,932
2022	1,565,655
2023	1,045,738
2024	864,090
2025	231,025
Thereafter ⁽¹⁾	2,208,919
Total	<u>\$ 7,739,359</u>

⁽¹⁾ Includes various maturities ranging from 2026 to 2044.

The weighted-average remaining maturity of the outstanding AgVantage securities shown in the table above was 4.9 years as of December 31, 2020.

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 45% of the Class A voting common stock is held by three 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-subsidary 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's policy is to generally require financial institutions to own a requisite amount of common stock, based on the size and type of institution, to participate in the Farm & Ranch line of business. 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, 2020 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, 2020. 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 23

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 both 2020 and 2019, Farmer Mac earned approximately \$1.2 million 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)	Farmer Mac directors Richard H. Davidson and Daniel L. Shaw serve as directors of AgriBank.	Farmer Mac did not conduct any business with AgriBank during 2020 or 2019.
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 \$9.2 million and \$4.0 million in USDA Securities from Bath State Bank in 2020 and 2019, 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.	Farmer Mac purchased \$416.8 million and \$776.4 million in participation interests in loans from CoBank in 2020 and 2019, respectively. This represented 56.0% and 89.1% of loan purchases under the Rural Utilities line of business for 2020 and 2019, respectively. In 2020 and 2019, CoBank retained \$2.3 million and \$1.2 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 2020 and 2019, Farmer Mac earned approximately \$1.2 million and \$1.1 million, respectively, in fees attributable to transactions with FCBT, primarily commitment fees for LTSPCs. In both 2020 and 2019, FCBT retained approximately \$0.1 million in servicing fees for its work as a Farmer Mac servicer.
Matthew 25 Management Corp.	85,241 shares of Class A voting common stock (8.27% of outstanding Class A stock and 5.57% of total voting common stock outstanding)	None	Farmer Mac did not conduct any business with Matthew 25 Management Corp. during 2020 or 2019.

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
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)	Farmer Mac director Todd P. Ware serves as a director of CFC.	<p>Transactions with CFC represented 36.7% and 9.8% of loan purchases under the Rural Utilities line of business during 2020 and 2019, respectively.</p> <p>In 2020 and 2019, Farmer Mac earned commitment fees of approximately \$1.3 million and \$1.7 million, respectively, attributable to transactions with CFC.</p> <p>In 2020 and 2019, Farmer Mac earned interest income of \$63.1 million and \$97.3 million, respectively, attributable to AgVantage transactions with CFC.</p> <p>In 2020 and 2019, CFC retained approximately \$3.3 million and \$3.2 million, respectively, in servicing fees for its work as a Farmer Mac servicer.</p>
The Vanguard Group, Inc.	49,999 shares of Class A voting common stock (4.85% of outstanding Class A stock and 3.27% of total voting common stock outstanding)	None	Farmer Mac did not conduct any business with The Vanguard Group during 2020 or 2019.
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	<p>In 2020 and 2019, Farmer Mac's purchases of loans from Zions under the Farm & Ranch line of business represented approximately 7.1% and 9.5%, respectively, of Farm & Ranch loan purchase volume for those years. Those purchases represented 6.2% and 7.6%, respectively, of total Farm & Ranch business volume for those years. The purchases of USDA Securities from Zions under the USDA Guarantees line of business represented approximately 1.4% and 2.1%, respectively, of the USDA Guarantees line of business purchases for the years ended December 31, 2020 and 2019. Transactions with Zions represented 4.1% and 4.5%, respectively, of Farmer Mac's total outstanding business volume as of December 31, 2020 and 2019.</p> <p>In 2020 and 2019, Zions retained approximately \$11.8 million and \$12.2 million, respectively, in servicing fees for its work as a Farmer Mac servicer.</p>

As discussed in more detail in Note 2(n) to the consolidated financial statements, Farmer Mac's consolidated financial statements include the accounts of 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

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

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

The COVID-19 pandemic and related efforts to contain it continue to create disruptions to the global economy. Government stimulus programs designed to mitigate the economic impacts of the pandemic, as well as significant liquidity support by the Federal Reserve to facilitate the functioning of the capital markets, has reduced volatility to the economy and the sectors we serve. But the duration, severity, and continued spread of COVID-19, the effectiveness and availability of vaccines, and ongoing government efforts taken to contain COVID-19 and mitigate public health and economic effects continue to evolve and remain uncertain. Farmer Mac's mission is to support rural America during this pandemic, and the disruptions caused by COVID-19 may present some new and expanded opportunities for Farmer Mac to help meet the financing needs of rural America while also presenting uncertainties and risks. COVID-19 has highlighted the importance of a healthy and stable global food supply chain, as well as the need for increased connectivity through rural broadband. These market conditions could result in increased investment in the supply chain for food, fuel, fiber, energy, and broadband, all of which require access to low-cost, long-term capital. Farmer Mac can provide a source of secondary market liquidity to help stimulate capital deployment to help facilitate these investments while continually monitoring potential market and sector volatility associated with the ongoing impacts of the pandemic. See "Risk Factors" in

Part II, Item 1A of this report for more information about the uncertainties and risks associated with the COVID-19 pandemic on Farmer Mac and its business.

Operating Expense. Farmer Mac continues to expand its investments in human capital, technology, and business infrastructure to increase capacity and efficiency as it seeks to accommodate its growth opportunities and achieve its long-term strategic objectives. Farmer Mac expects continued increases in its operating expenses over the next several years corresponding to business and revenue growth. We expect these efforts to continue and increase over the next 12 - 18 months as we innovate and grow our business while monitoring the growth in operating expenses commensurate with the growth in our revenue.

Operations. On March 12, 2020, Farmer Mac activated its business continuity plan and has been operating uninterrupted since then, with all of its employees working remotely from their homes. Farmer Mac has provided guidance and support to all of its employees to ensure that they have the tools and knowledge needed to effectively work from home, and Farmer Mac's technology platform and business continuity plan have been functioning as designed in support of all functions of the organization with no material disruption of business. As a secondary market participant in the agricultural and rural utility lending space, Farmer Mac's business model is already based on a remote interface with its customers and vendors. We do not expect Farmer Mac's remote-working environment to have a material effect on our operations either in the near term or for the foreseeable future.

Agricultural Industry. Like most industries, the COVID-19 pandemic heavily impacted the U.S. agricultural and food sectors throughout 2020. According to advance sales data from the U.S. Census Bureau, regional school and restaurant closures combined with consumer social distancing precautions caused a 53% drop in food and beverage sales away from home in April 2020. Sales at food and beverage places ended the year 19% below 2019 levels. Meat and poultry processing plants experienced widespread closures in April and May, as the Center for Disease Control (CDC) reported more than 239 facilities affected by COVID-19 outbreaks in 23 states. According to data from the U.S. Energy Information Administration, ethanol production fell to 50% of 2019 levels in April 2020 as gasoline consumption fell amid closures and reduced mobility. Ethanol is a primary demand driver for corn, so the sudden demand shock caused downward pressure on grain commodity prices. The USDA corn price index hit a 10-year low in April 2020.

Despite these pressures, the agricultural and food sectors endured with a strong finish in 2020. Food consumption at home picked up considerably, with U.S. Census data showing an 11% increase in sales at food and beverage stores in 2020 compared to 2019. USDA research shows that farm production and food processing take a higher net margin of the food dollar spent at home, so the shift of consumer spending to food at home could offset some or all of the losses from sales to restaurants and schools. Consumer mobility increased steadily in the second half of 2020, restoring fuel demand and pushing ethanol production back to 88% of 2019 levels by December. Record government support payments to farmers and ranchers helped offset the mid-year disruptions. The USDA estimates total farm program payments to farmers at over \$46 billion for the year, a combination of typical farm programs, payments from the trade-oriented Market Facilitation Program (MFP), forgivable loans from the Paycheck Protection Program (PPP), and two rounds of Coronavirus Food Assistance Program (CFAP) payments. Finally, reduced global supply of grains and increased export demand for grains combined to push world grain prices to 7-year highs. USDA corn and soybean cash price indices closed the year 30% and 42% above 2019 levels, respectively. Of the major agricultural commodities, only cattle and dairy prices did not end the year higher than when it began.

The rebound in commodity prices combined with extensive government support payments led to a large increase in sector-wide profitability for 2020. USDA projections for net farm income and net cash farm income in 2020 are the highest levels since 2013 at \$121.1 billion and \$136.2 billion, respectively. An average year generates approximately \$100 billion in net farm income, so both 2020 metrics are well above historical averages. A small decline in cash expenses due to a reduction in interest expense added to improved profitability. Animal protein and specialty crop producers did not fully participate in the increase, as higher labor, feed, and other input costs partially offset any gains in cash receipts. Early USDA estimates for 2021 show a stable income outlook of \$111.4 billion in net farm income and \$128.3 billion in net cash farm income due to a reduction in government support payments but an increase in grain cash receipts. Higher profitability and lower overall interest rates allow sector participants to refinance and restructure their balance sheets with more favorable terms, driving deal flow and lender competition.

Farmland values held steady throughout much of 2020 after rising at approximately the rate of inflation for the last two years. Data released in August 2020 by the USDA indicates an average increase in farm real estate values of 0.2% in 2020 in Corn Belt states (Illinois, Indiana, Iowa, Missouri, and Ohio), but a decrease of 2.3% in Northern Plains states (Kansas, Nebraska, North Dakota, and South Dakota). In all other regions, farmland value averages are reported to be flat to increasing. The COVID-19 pandemic slowed public auctions and sales in the first half of 2020, but transactions picked up in the third and fourth quarters, and values trended higher in the fourth quarter. An improved profitability outlook combined with low market interest rates could provide support for land values into 2021. Early estimates from the USDA show a 2% increase in farm real estate in 2021. Historically, rising farm real estate values are paired with an increase in real estate-secured debt. While regional averages for farmland values provide a good barometer for the overall movement in U.S. farmland values, economic forces affecting land markets are highly localized, and some markets may experience greater volatility than state or national averages indicate.

As a result of improved profitability and an injection of working capital into the sectors, Farmer Mac's 90-day delinquencies and substandard assets decreased in fourth quarter 2020. Forty-four percent of the loans past due 90-days or more in third quarter 2020 cured or paid off by December 31, 2020. However, the ongoing COVID-19 pandemic and the potential for continued economic stress increase the level of uncertainty inherent in the agricultural credit sector and could alter the trajectory of the current agricultural cycle. A prolonged disruption may result in elevated loan delinquencies and a higher percentage of loans rated substandard. Farmer Mac believes that its portfolio continues to be highly diversified, both geographically and by commodity, and that its portfolio has been underwritten to high credit quality standards. Therefore, Farmer Mac believes that its portfolio is well-positioned to endure reasonably foreseeable volatility in commodity prices and farmland values. For more information about the loan balances, loan-to-value ratios, 90-day delinquencies, and substandard asset rate for the Farm & Ranch loans in Farmer Mac's portfolio as of December 31, 2020, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Apart from the COVID-19 pandemic, three exogenous factors will continue to be a source of heightened uncertainty for the agricultural and food sectors: international trade, weather conditions, and state and federal farm policy. The U.S. agricultural sector has become increasingly dependent on foreign markets as a source of demand. Agriculture exports were strong in 2020, aided by a weaker U.S. dollar, a recovery in Chinese hog production and subsequent demand for feed inputs, and better overall trade relations. The U.S. experienced \$22 billion in severe weather disasters in 2020, the highest level in the 40 years tracked

by the National Oceanic and Atmospheric Administration. Many of those events affected agriculture, including a midwestern derecho, western wildfires, and western drought. Federal crop insurance provides a strong mitigator against this risk, but farmers and ranchers face increasingly-severe weather incidents. For more information about the recent Texas Arctic Freeze, please refer to the separate section below. Farmer Mac closely monitors state and federal legislation and regulations that could affect U.S. agriculture. Democrats took control of the White House, the U.S. House of Representatives, and the U.S. Senate in 2021. Although party control has not historically correlated with the availability of government farm payments, there could be changes in regulatory or tax policies that could affect the U.S. agricultural and food sectors. Farmer Mac continues to monitor the effects that any changes in legislation or regulation could have on Farmer Mac or its customers.

Rural Utilities Industry. The rural energy industry has less cyclicity than the agricultural sector, but does trend with conditions in the general economy. Higher levels of unemployment and adverse credit markets are typically associated with drops in energy demand (i.e., lower commercial, industrial, or residential demand) and increases in industry ratings downgrades. The economic distress caused by the COVID-19 pandemic has led to historic levels of unemployment and reduced energy demand from the commercial and industrial sectors. According to data from the U.S. Energy Information Administration, electricity sales to commercial and industrial consumers dropped 8% year-to-date through November 2020 compared to 2019. However, residential sales during the same period were up 2% compared to 2019, as residents spent more time at home during state, local, and self-imposed quarantines. Residential power sales are typically significantly more profitable than those for commercial and industrial consumers, so some of the profitability reduction from the loss of commercial and industrial sales can be offset by the change in sales mix. Sector sales mix varies from utility to utility based on the characteristics of the region served, so the degree of profitability offset may differ. Some rural electric cooperatives received forgivable loans through the Paycheck Protection Program (PPP), which are another potential source to offset any profitability reduction. The COVID-19 pandemic has also highlighted the greater need for and interest in access to broadband internet in rural areas, and the CARES Act authorized more than \$300 million to support healthcare industry telecommunications and rural broadband grants. Farmer Mac expects the heightened level of uncertainty surrounding the economic impacts of COVID-19 to continue into 2021. Through December 31, 2020 Farmer Mac had not observed material degradation in the financial performance of its Rural Utilities portfolio.

During 2020, the sudden decrease of interest rates to historic lows drove significant financing activity on the part of rural electric cooperatives. Prospects for loan growth within the rural utilities industry overall appear to be moderate in the short to medium term as ongoing normal-course capital expenditures related to maintaining and upgrading utility infrastructure continue at typical levels. Farmer Mac's future growth opportunities for financing the electric cooperative industry may be affected by the demand for electric power in rural areas, capital expenditures by electric cooperatives driven by regulatory or technological changes, the continuation of a low interest rate environment, and competitive dynamics within the rural utilities cooperative finance industry. In December 2020, the Federal Communication Commission's Rural Digital Opportunity Fund (RDOF) auction awarded \$9.2 billion in broadband-related operating cost subsidies to winning bidders. This may provide a catalyst for capital demands from rural electric cooperatives who seek to develop and deploy broadband services, as over \$1.5 billion in subsidies were awarded to various rural electric cooperatives. The cooperatives that were unsuccessful RDOF bidders also gained knowledge about the processes and technologies involved in broadband projects, which may enable them to develop broadband infrastructure. In particular, these capital needs may provide Farmer Mac with new financing opportunities with our existing customers.

The growth in renewable energy generation and deployment of energy storage technologies may help deepen Farmer Mac's relationships with existing customers through new business opportunities with them. This growth may also broaden Farmer Mac's customer base with cooperative lenders focused on lending to renewable cooperatives. In response to this growth, Farmer Mac has deployed new financing products tailored to the renewable energy sector, which represents a new market opportunity for Farmer Mac. Under this new program, Farmer Mac purchased solar project participation interests from a new counterparty during first quarter 2020, wind project participation interests from an existing counterparty in third quarter 2020, and loans from a new counterparty in fourth quarter 2020. Farmer Mac anticipates further growth in this area during 2021. As of December 31, 2020 the total outstanding balance of Farmer Mac's renewable energy financing portfolio was \$73.0 million.

Texas Arctic Freeze. Farmer Mac is carefully monitoring the effects of the extremely cold weather during mid-February 2021 in the mid-south region, particularly in Texas, on both our agricultural and rural infrastructure portfolios. As of December 31, 2020, our agricultural portfolio exposure in Texas was approximately \$611 million, with cattle being the largest commodity exposure. Cattle producers in that region could face animal health issues as a result of the freezing conditions, but most of our other commodity exposures in that region are less likely to be significantly affected by these conditions. As of December 31, 2020, our rural infrastructure portfolio exposure in Texas was approximately \$377 million and is split between distribution and generation and transmission cooperatives. All these cooperatives were affected in some way by the arctic freeze such as obstacles in receiving fuel for power plants or the inability to obtain contracted electricity, which resulted in rolling blackouts across the state. We believe that the electric cooperatives in our portfolio located in Texas entered this period of stress in a strong financial position (including revolving lines of credit) to absorb cost increases. Most of these electric cooperatives have fuel or power cost pass-through provisions within their rate-making authority which provides flexibility to recoup market price fluctuations. It is unknown at this time what magnitude of cost pass-throughs will be required to pay for additional energy costs and whether there will be new regulatory barriers to implementing them. As of February 25, 2021, we are not aware of any damage from the arctic freeze that would likely result in a material credit loss in either our agricultural portfolio or our rural infrastructure portfolio.

Balance Sheet Review

The following table summarizes the balance sheet as of the periods indicated:

Table 24

	As of		Change	
	December 31, 2020	December 31, 2019	\$	%
	<i>(in thousands)</i>			
Assets				
Cash and cash equivalents	\$ 1,033,941	\$ 604,381	\$ 429,560	71 %
Investment securities, net of allowance	3,898,724	3,004,875	893,849	30 %
Farmer Mac Guaranteed Securities, net of allowance	8,123,493	8,590,476	(466,983)	(5)%
USDA Securities	2,480,321	2,241,073	239,248	11 %
Loans, net of allowance	8,535,146	6,981,440	1,553,706	22 %
Other	283,876	287,129	(3,253)	(1)%
Total assets	<u>\$ 24,355,501</u>	<u>\$ 21,709,374</u>	<u>\$ 2,646,127</u>	12 %
Liabilities				
Notes Payable	21,848,917	19,098,648	2,750,269	14 %
Other	1,514,107	1,811,450	(297,343)	(16)%
Total liabilities	<u>\$ 23,363,024</u>	<u>\$ 20,910,098</u>	<u>\$ 2,452,926</u>	12 %
Total equity	992,477	799,276	193,201	24 %
Total liabilities and equity	<u>\$ 24,355,501</u>	<u>\$ 21,709,374</u>	<u>\$ 2,646,127</u>	12 %

Assets. The increase in total assets was primarily attributable to the net growth in our outstanding business volume across most lines of business.

The increase in cash and cash equivalents and investment securities was primarily due to a decision to increase our liquidity investment portfolio due to the COVID-19 pandemic and to support our program asset growth.

Liabilities. The increase in total liabilities was primarily due to an increase in total notes payable to support our program asset growth.

Equity. The increase in total equity was primarily due to the issuance of the Series E Preferred Stock and the Series F Preferred Stock and an increase in net income. These increases were partially offset by the redemption of the Series A Preferred stock and an increase in other comprehensive losses, net of tax, primarily due to decreases in the fair value of available-for-sale securities and financial derivatives designated in cash flow hedge accounting relationships.

Risk Management

Credit Risk – Loans and Guarantees.

COVID-19

Farmer Mac continues to monitor the effects of the COVID-19 pandemic on Farmer Mac's credit risk related to Farmer Mac's borrower exposures. In mid-2020, Farmer Mac experienced an increase in payment deferral requests from its network of loan servicers on behalf of borrowers in Farmer Mac's

Farm & Ranch loan portfolio, although deferment requests were below our expectations. Our early expectations for payment deferment requests were based on forecasts provided by other GSEs and other Farm Credit System institutions. To address the requests that we have received, Farmer Mac has established criteria for approval of payment deferments for borrowers impacted by the COVID-19 pandemic and have communicated these criteria to key counterparties. Farmer Mac will monitor the criteria as the impact of the pandemic continues to unfold and determine if any changes should be made. Most of the payment deferments Farmer Mac has approved and executed for loans it has purchased or securitized in its Farm & Ranch portfolio have been for up to six months, with the deferred principal and interest payments capitalized into the unpaid principal balance of the loan. The unpaid principal balance is then re-amortized over the remaining term of the loan. Approved and executed payment deferments for loans in LTSPCs have varied from three-month payment deferments for principal and interest to deferred interest-only payments for up to twelve months, depending on the applicable LTSPC lender's deferment policy. As of December 31, 2020, we have executed payment deferments in the Farm & Ranch and USDA Securities portfolios related to an aggregate of \$432.0 million of unpaid principal balances, which represents 1.97% of our total outstanding business volume.

In addition, FCA has issued regulatory guidance encouraging Farmer Mac to work with its lending and servicing partners in approving and executing servicing actions for borrowers impacted by COVID-19. The table below presents a cumulative summary of COVID-19 payment deferments through December 31, 2020 in the Farm & Ranch and USDA Guarantees lines of business. Farmer Mac has not received any payment deferment requests in the Rural Utilities line of business. For more information about FCA's regulatory guidance related to the COVID-19 pandemic, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Regulatory Matters."

Table 25

Farm & Ranch COVID-19 Deferments Summary

As of December 31, 2020 ⁽¹⁾					
Unpaid Principal Balance					
	Requested, but not yet Approved	Approved, but not yet Executed	Not Approved ⁽²⁾	Approved and Executed	
<i>(in thousands)</i>					
Farm & Ranch:					
On-balance sheet:					
Loans held for investment	\$ 286	\$ 675	\$ —	\$ 118,903	
Loans held in consolidated trusts	—	2,005	1,140	26,564	
On-balance sheet total	\$ 286	\$ 2,680	\$ 1,140	\$ 145,467	
Off-balance sheet:					
LTSPCs	585	8,144	3,502	193,665	
Farm & Ranch Total	\$ 871	\$ 10,824	\$ 4,642	\$ 339,132	
USDA:					
USDA Securities	\$ 11,664	\$ —	\$ 5,081	\$ 86,703	
Farmer Mac Guaranteed USDA Securities	946	—	382	6,189	
USDA Total	\$ 12,610	\$ —	\$ 5,463	\$ 92,892	
Farm & Ranch and USDA Total Deferments	\$ 13,481	\$ 10,824	\$ 10,105	\$ 432,024	

⁽¹⁾ Loans under a COVID-19 deferment are not considered to be past due.

⁽²⁾ Typically due to the borrower withdrawing from the COVID-19 deferment process. For example, the borrower may have refinanced the loan, paid off the loan, or decided not to pursue payment relief.

Farm & Ranch

Farmer Mac's direct credit exposure to Farm & Ranch loans held and loans underlying Farm & Ranch Guaranteed Securities and LTSPCs as of December 31, 2020 was \$8.6 billion across 48 states. 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. For larger loan exposures to agriculture production and agribusinesses that support agriculture production, food and fiber processing, and other supply chain production, which may have different risk profiles, 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 Farm & Ranch loans, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Underwriting and Collateral Standards".

Farmer Mac has indirect credit exposure to the Farm & Ranch loans that secure AgVantage securities included in the Institutional Credit line of business. As of December 31, 2020, Farmer Mac had not experienced any credit losses on any AgVantage securities. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional" for more information about Farmer Mac's credit risk on AgVantage securities.

Farmer Mac considers a loan's original loan-to-value ratio as one of many factors in evaluating loss severity. Loan-to-value ratios depend on the market value of a property, as determined in accordance with Farmer Mac's collateral valuation standards. As of December 31, 2020 and December 31, 2019, the average unpaid principal balances for loans outstanding in the Farm & Ranch line of business was \$742,000 and \$683,000, 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 loans purchased during 2020 was 54%, compared to 51% for loans purchased during 2019. The weighted-average original loan-to-value ratio for all Farm & Ranch loans held and all loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs was 52% and 51% as of December 31, 2020 and December 31, 2019, respectively. The weighted-average original loan-to-value ratio for all 90-day delinquencies was 50% and 53% as of December 31, 2020 and December 31, 2019, 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 Farm & Ranch loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs was 46% and 45% as of December 31, 2020 and December 31, 2019, respectively.

For more information about the credit quality of Farmer Mac's Farm & Ranch portfolio and the associated allowance for losses please refer to Notes 8 and 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."

Farmer Mac's 90-day delinquency measure includes loans 90 days or more past due, as well as loans in foreclosure and non-performing loans where the borrower is in bankruptcy. As of December 31, 2020, Farmer Mac's 90-day delinquencies were \$46.2 million (0.54% of the Farm & Ranch portfolio), compared

to \$61.0 million (0.78% of the Farm & Ranch portfolio) as of December 31, 2019. Those 90-day delinquencies were comprised of 38 delinquent loans as of December 31, 2020, compared to 57 delinquent loans as of December 31, 2019. The decrease in 90-day delinquencies was primarily driven by three commodity groups – permanent plantings, livestock, and part-time farms. The decreases in those commodity groups were partially offset by increases related to the agricultural storage & processing loan secured by a specialized poultry facility and multiple crop loans. The top ten borrower exposures over 90 days delinquent represented over half of the 90-day delinquencies as of December 31, 2020. Loans under COVID-19 deferment are not considered past due and are not included in our delinquent loan statistics. Farmer Mac believes that it remains adequately collateralized on its delinquent loans.

Our 90-day delinquency rate as of December 31, 2020 was below Farmer Mac's historical average. In the near-term, our delinquency rate may exceed our historical average due to the expected impact of the COVID-19 pandemic on the agricultural economy. Farmer Mac's average 90-day delinquency rate as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 1%. The highest 90-day delinquency rate observed during that period occurred in 2009 at approximately 2%, which coincided with increased delinquencies in loans within Farmer Mac's then-held ethanol loan portfolio that Farmer Mac no longer holds.

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

Table 26

	Farm & Ranch Line of Business	90-Day Delinquencies	Percentage
<i>(dollars in thousands)</i>			
As of:			
December 31, 2020	\$ 8,581,181	\$ 46,232	0.54 %
September 30, 2020	8,249,349	88,041	1.07 %
June 30, 2020	8,017,850	68,682	0.86 %
March 31, 2020	7,811,594	79,722	1.02 %
December 31, 2019	7,776,950	60,954	0.78 %
September 30, 2019	7,393,728	59,691	0.81 %
June 30, 2019	7,291,352	28,045	0.38 %
March 31, 2019	7,215,585	52,366	0.73 %
December 31, 2018	7,233,971	26,881	0.37 %

Across all of Farmer Mac's lines of business, 90-day delinquencies represented 0.21% of total outstanding business volume as of December 31, 2020, compared to 0.29% as of December 31, 2019 and 0.14% as of December 31, 2018. The following table presents outstanding Farm & Ranch loans held and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities and 90-day delinquencies as of December 31, 2020 by year of origination, geographic region, commodity/collateral type, original loan-to-value ratio, and range in the size of borrower exposure:

Table 27

Farm & Ranch 90-Day Delinquencies as of December 31, 2020

	Distribution of Farm & Ranch Line of Business	Farm & Ranch Line of Business	90-Day Delinquencies ⁽¹⁾	Percentage
		<i>(dollars in thousands)</i>		
By year of origination:				
2010 and prior	7 %	\$ 592,548	\$ 2,591	0.44 %
2011	2 %	130,862	—	— %
2012	4 %	326,344	—	— %
2013	6 %	474,806	961	0.20 %
2014	4 %	373,001	1,077	0.29 %
2015	6 %	540,674	691	0.13 %
2016	10 %	875,272	11,326	1.29 %
2017	11 %	903,891	14,811	1.64 %
2018	9 %	828,905	2,317	0.28 %
2019	14 %	1,178,015	12,458	1.06 %
2020	27 %	2,356,863	—	1.06 %
Total	100 %	\$ 8,581,181	\$ 46,232	0.54 %
By geographic region⁽²⁾:				
Northwest	12 %	\$ 1,048,868	\$ 11,690	1.11 %
Southwest	35 %	2,981,880	1,616	0.05 %
Mid-North	29 %	2,483,698	15,056	0.61 %
Mid-South	12 %	1,059,152	3,043	0.29 %
Northeast	4 %	368,156	4,396	1.19 %
Southeast	8 %	639,427	10,431	1.63 %
Total	100 %	\$ 8,581,181	\$ 46,232	0.54 %
By commodity/collateral type:				
Crops	50 %	\$ 4,344,410	\$ 27,589	0.64 %
Permanent plantings	24 %	2,041,054	1,462	0.07 %
Livestock	18 %	1,536,808	8,927	0.58 %
Part-time farm	6 %	506,140	754	0.15 %
Ag. Storage and Processing	2 %	148,091	7,500	5.06 %
Other	—	4,678	—	— %
Total	100 %	\$ 8,581,181	\$ 46,232	0.54 %
By original loan-to-value ratio:				
0.00% to 40.00%	17 %	\$ 1,466,011	\$ 3,803	0.26 %
40.01% to 50.00%	25 %	2,104,552	16,615	0.79 %
50.01% to 60.00%	35 %	2,998,033	22,874	0.76 %
60.01% to 70.00%	20 %	1,695,216	2,608	0.15 %
70.01% to 80.00% ⁽³⁾	3 %	301,886	222	0.07 %
80.01% to 90.00% ⁽³⁾	— %	15,483	110	0.71 %
Total	100 %	\$ 8,581,181	\$ 46,232	0.54 %
By size of borrower exposure⁽⁴⁾:				
Less than \$1,000,000	29 %	\$ 2,475,210	\$ 6,456	0.26 %
\$1,000,000 to \$4,999,999	35 %	2,980,950	22,026	0.74 %
\$5,000,000 to \$9,999,999	15 %	1,297,834	7,500	0.58 %
\$10,000,000 to \$24,999,999	12 %	1,019,996	10,250	1.00 %
\$25,000,000 and greater	9 %	807,191	—	— %
Total	100 %	\$ 8,581,181	\$ 46,232	0.54 %

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

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

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

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

Another indicator that Farmer Mac considers in analyzing the credit quality of its Farm & Ranch portfolio is the level of internally-rated "substandard" assets, both in dollars and as a percentage of the outstanding Farm & Ranch portfolio. Assets categorized as "substandard" have a well-defined weakness or weaknesses, and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected. As of December 31, 2020, Farmer Mac's substandard assets were \$291.5 million (3.4% of the Farm & Ranch portfolio), compared to \$310.0 million (4.0% of the Farm & Ranch portfolio) as of December 31, 2019. Those substandard assets were comprised of 343 loans as of December 31, 2020 and 353 loans as of December 31, 2019.

The decrease of \$18.5 million in substandard assets during 2020 was primarily driven by credit upgrades in our on-balance sheet portfolio, partially offset by credit downgrades in our off-balance sheet portfolio during the year. Substandard assets decreased as a percentage of the total on-balance sheet portfolio primarily due to the credit upgrades in our on-balance sheet portfolio. Substandard assets increased as a percentage of the total off-balance sheet portfolio primarily due to the credit downgrades in our off-balance sheet portfolio. The percentage of substandard assets within the portfolio closely approximates the historical average.

Farmer Mac's average substandard assets as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 4%. Due to the COVID-19 pandemic, we believe that the substandard rate could rise above that historical average in the short-term. However, the recent improvements in the agricultural economy could potentially counter the negative effects of COVID-19 on our loan portfolio. The full extent of the impact of the COVID-19 pandemic remains to be seen, and we will continue to monitor its impact on our substandard asset rate. 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 then-held ethanol portfolio that Farmer Mac no longer holds. If Farmer Mac's substandard asset rate increases from current levels, it is likely that Farmer Mac's provision to the allowance for loan losses and the reserve for losses will also increase.

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

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

Table 28

Farm & Ranch current loan-to-value ratio by internally assigned risk rating as of December 31, 2020

	Acceptable	Special Mention	Substandard	Total
	<i>(in thousands)</i>			
Current loan-to-value ratio⁽¹⁾:				
0.00% to 40.00%	\$ 2,569,762	\$ 81,890	\$ 91,930	\$ 2,743,582
40.01% to 50.00%	2,161,539	90,165	72,847	2,324,551
50.01% to 60.00%	1,994,724	58,366	81,283	2,134,373
60.01% to 70.00%	1,010,825	60,555	18,988	1,090,368
70.01% to 80.00%	235,587	18,343	18,675	272,605
80.01% and greater	5,920	2,011	7,771	15,702
Total	<u>\$ 7,978,357</u>	<u>\$ 311,330</u>	<u>\$ 291,494</u>	<u>\$ 8,581,181</u>

⁽¹⁾ The current loan-to-value ratio is based on original appraised value (or most recently obtained appraisal, if available) and current outstanding loan amount adjusted to reflect loan amortization.

The following table presents Farmer Mac's cumulative net credit losses relative to the cumulative original balance for all Farm & Ranch loans purchased and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities as of December 31, 2020 by year of origination, geographic region, and commodity/collateral type. The purpose of this information is to present information about realized losses relative to original Farm & Ranch purchases, guarantees, and commitments.

Table 29

Farm & Ranch Credit Losses Relative to Cumulative
Original Loans, Guarantees, and LTSPCs as of December 31, 2020

	Cumulative Original Loans, Guarantees and LTSPCs	Cumulative Net Credit Losses/ (Recoveries)	Cumulative Loss Rate
	<i>(dollars in thousands)</i>		
By year of origination:			
2010 and prior	\$ 15,323,945	\$ 30,124	0.20 %
2011	780,955	3,661	0.47 %
2012	1,157,760	—	— %
2013	1,460,375	—	— %
2014	1,032,953	—	— %
2015	1,197,566	(516)	(0.04)%
2016	1,488,794	—	— %
2017	1,578,674	5,365	0.34 %
2018	1,291,175	—	— %
2019	1,488,791	—	— %
2020	2,590,540	—	— %
Total	\$ 29,391,528	\$ 38,634	0.13 %
By geographic region⁽¹⁾:			
Northwest	\$ 3,816,339	\$ 11,191	0.29 %
Southwest	10,415,885	8,542	0.08 %
Mid-North	7,414,805	18,219	0.25 %
Mid-South	3,632,060	(613)	(0.02)%
Northeast	1,611,170	323	0.02 %
Southeast	2,501,269	972	0.04 %
Total	\$ 29,391,528	\$ 38,634	0.13 %
By commodity/collateral type:			
Crops	\$ 13,582,696	\$ 2,887	0.02 %
Permanent plantings	6,535,361	9,783	0.15 %
Livestock	6,555,620	3,836	0.06 %
Part-time farm	1,707,662	1,090	0.06 %
Ag. Storage and Processing	857,324	21,038	2.45 %
Other	152,865	—	— %
Total	\$ 29,391,528	\$ 38,634	0.13 %

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

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

Table 30

As of December 31, 2020							
Farm & Ranch Concentrations by Commodity Type within Geographic Region							
Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total	
<i>(dollars in thousands)</i>							
By geographic region⁽¹⁾:							
Northwest	\$ 505,381	\$ 196,530	\$ 257,345	\$ 84,553	\$ 5,000	\$ 59	\$1,048,868
	5.8 %	2.3 %	3.0 %	1.0 %	0.1 %	— %	12.2 %
Southwest	708,740	1,549,973	537,006	96,863	86,919	2,379	2,981,880
	8.2 %	18.1 %	6.3 %	1.1 %	1.0 %	— %	34.7 %
Mid-North	2,102,120	10,955	222,812	117,914	27,963	1,934	2,483,698
	24.4 %	0.1 %	2.6 %	1.4 %	0.4 %	— %	28.9 %
Mid-South	628,515	43,568	312,432	67,897	6,721	19	1,059,152
	7.3 %	0.5 %	3.7 %	0.8 %	0.1 %	— %	12.4 %
Northeast	161,833	58,401	78,494	65,996	3,432	—	368,156
	1.9 %	0.7 %	0.9 %	0.8 %	— %	— %	4.3 %
Southeast	237,821	181,627	128,719	72,917	18,056	287	639,427
	2.8 %	2.1 %	1.5 %	0.9 %	0.2 %	— %	7.5 %
Total	<u>\$ 4,344,410</u>	<u>\$ 2,041,054</u>	<u>\$1,536,808</u>	<u>\$506,140</u>	<u>\$ 148,091</u>	<u>\$ 4,678</u>	<u>\$8,581,181</u>
	<u>50.4 %</u>	<u>23.8 %</u>	<u>18.0 %</u>	<u>6.0 %</u>	<u>1.8 %</u>	<u>— %</u>	<u>100.0 %</u>

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

Table 31

As of December 31, 2020

Farm & Ranch Cumulative Credit Losses by Origination Year and Commodity Type							
Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Total		
<i>(in thousands)</i>							
By year of origination:							
2010 and prior	\$ 3,427	\$ 9,783	\$ 3,836	\$ 1,066	\$ 12,012	\$ 30,124	
2011	—	—	—	—	3,661	3,661	
2012	—	—	—	—	—	—	
2013	—	—	—	—	—	—	
2014	—	—	—	—	—	—	
2015	(540)	—	—	24	—	(516)	
2016	—	—	—	—	—	—	
2017	—	—	—	—	5,365	5,365	
2018	—	—	—	—	—	—	
2019	—	—	—	—	—	—	
2020	—	—	—	—	—	—	
Total	\$ 2,887	\$ 9,783	\$ 3,836	\$ 1,090	\$ 21,038	\$ 38,634	

Rural Utilities

Farmer Mac's direct credit exposure to Rural Utilities loans held and loans underlying LTSPCs as of December 31, 2020 was \$2.8 billion across 45 states. For more information about Farmer Mac's underwriting and collateral valuation standards for Rural Utilities loans, see "Business—Farmer Mac's Lines of Business—Rural Utilities—Underwriting". As of December 31, 2020, there were no delinquencies in Farmer Mac's portfolio of Rural Utilities loans.

Farmer Mac has indirect credit exposure to Rural Utilities loans that secure AgVantage securities included in the Institutional Credit line of business. As of December 31, 2020, Farmer Mac had not experienced any credit losses on any AgVantage securities. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional" for more information about Farmer Mac's credit risk on AgVantage securities.

Farmer Mac has never experienced a credit loss in its Rural Utilities line of business. Upon the adoption of the current expected credit loss accounting standard ("CECL") on January 1, 2020, we are now required to forecast and disclose our expected credit losses for the expected life of our Rural Utilities portfolio assets. To do this, Farmer Mac relies upon industry data purchased from ratings agencies as well as publicly available information as disclosed in the securities filings of other major lenders who serve this industry. Activity affecting the allowance for loan losses and reserve for losses is discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Provision for and Release of Allowance for Loan Losses and Reserve for Losses."

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

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

Table 32

	Rural Utilities portfolio by internally assigned risk rating as of December 31, 2020			
	Acceptable	Special Mention	Substandard	Total
	<i>(in thousands)</i>			
Distribution Cooperative	\$ 2,128,985	\$ —	\$ —	\$ 2,128,985
G&T Cooperative	614,817	—	—	614,817
Renewable Energy	73,035	—	—	73,035
Rural Utilities Total	<u>\$ 2,816,837</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,816,837</u>

For more information about the credit quality of Farmer Mac's Rural Utilities 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 in the USDA Guarantees line of business because of the USDA guarantee. As of December 31, 2020, Farmer Mac had not experienced any credit losses on any securities under the USDA Guarantees line of business 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 Guaranteed Securities. As of December 31, 2020, Farmer Mac had executed COVID-19 payment deferrals on loans with unpaid principal balances of \$92.9 million underlying USDA Securities.

Farmer Mac requires most approved lenders to make representations and warranties about the conformity of eligible agricultural mortgage and Rural Utilities loans to Farmer Mac's standards, the accuracy of loan data provided to Farmer Mac, and other requirements related to the loans. Sellers who make these representations and warranties are responsible to Farmer Mac for breaches of those representations and warranties. Farmer Mac has the ability to require a seller to cure, replace, or repurchase a loan sold or transferred to Farmer Mac if any breach of a representation or warranty is discovered that was material to Farmer Mac's decision to purchase the loan or that directly or indirectly causes a default or potential loss on a loan sold or transferred by the seller to Farmer Mac. During the previous three years ended December 31, 2020, 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 real estate mortgage loans (other than rural housing and part-time farm mortgage loans) and Rural Utilities loans on which it has direct credit exposure. For rural housing and part-time farm mortgage loans, Farmer Mac relies on representations and warranties from the seller that those loans conform to Farmer Mac's specified underwriting criteria without exception. For more information about Farmer Mac's loan eligibility requirements and underwriting standards, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Loan Eligibility," "Business—Farmer Mac's Lines of Business—Farm & Ranch—Underwriting and Collateral Standards," "Business—Farmer Mac's Lines of Business—Rural Utilities—Loan Eligibility," and "Business—Farmer Mac's Lines of Business—Rural Utilities—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 serious errors in the servicing of those loans. If a servicer materially breaches the terms of its servicing agreement with Farmer Mac, such as failing to forward payments received or releasing collateral without Farmer Mac's consent, or experiences insolvency or bankruptcy, the servicer is responsible for any corresponding damages to Farmer Mac and, in most cases, Farmer Mac has the right to terminate the servicing relationship for a particular loan or the entire portfolio serviced by the servicer. Farmer Mac also can proceed against the servicer in arbitration or exercise any remedies available to it under law. During the previous three years ended December 31, 2020, 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—Farm & Ranch—Servicing" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Servicing."

Credit Risk – Institutional. 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 any loan that becomes more than 30 days delinquent in the payment of principal or interest and to substitute an eligible loan that is current in payment to maintain the minimum required collateralization level. Since the onset of the COVID-19 pandemic, Farmer Mac has approved and expects to continue to approve payment deferrals on loans collateralizing AgVantage securities, allowing the AgVantage counterparty to keep these loans in its collateral pool without replacing them. The criteria currently in place for approving payment deferrals for these loans is similar to the criteria Farmer Mac has established for loans in its Farm & Ranch portfolio that are affected by the COVID-19 pandemic.

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. For Farm Equity AgVantage counterparties and smaller financial funds or entities, Farmer Mac also requires that the counterparty generally (1) maintain a higher collateralization level either through a higher overcollateralization percentage or through lower loan-to-value ratio thresholds and (2) comply with specified financial covenants for the life of the related AgVantage security to avoid default. For a more detailed description of AgVantage securities, see "Business—Farmer Mac's Lines of Business—Institutional Credit."

The unpaid principal balance of outstanding on-balance sheet AgVantage securities secured by loans eligible for the Farm & Ranch line of business totaled \$5.2 billion as of December 31, 2020 and \$5.5 billion as of December 31, 2019. The unpaid principal balance of on-balance sheet AgVantage securities secured by loans eligible for the Rural Utilities line of business totaled \$2.6 billion as of December 31,

2020 and \$2.9 billion as of December 31, 2019. The unpaid principal balance of outstanding off-balance sheet AgVantage securities totaled \$4.4 million as of December 31, 2020 and \$7.6 million as of December 31, 2019. A \$0.3 billion off-balance sheet AgVantage revolving line of credit facility was terminated during fourth quarter 2019.

The following table provides information about the issuers of AgVantage securities, as well as the required collateralization levels for those transactions as of December 31, 2020 and December 31, 2019:

Table 33

Counterparty	As of December 31, 2020			As of December 31, 2019		
	Balance	Credit Rating	Required Collateralization	Balance	Credit Rating	Required Collateralization
<i>(dollars in thousands)</i>						
AgVantage:						
CFC	\$ 2,570,249	A	100%	\$ 2,949,500	A	100%
MetLife	2,375,000	AA-	103%	2,550,000	AA-	103%
Rabo AgriFinance	2,050,000	None	110%	2,225,000	None	110%
Other ⁽¹⁾	551,654	None	106% to 125%	436,041	None	106% to 125%
Farm Equity AgVantage ⁽²⁾	192,456	None	110%	279,705	None	110%
Total outstanding	\$ 7,739,359			\$ 8,440,246		

⁽¹⁾ Consists of AgVantage securities issued by 6 and 5 different issuers as of December 31, 2020 and December 31, 2019, respectively.

⁽²⁾ Consists of AgVantage securities issued by 4 and 5 different issuers as of December 31, 2020 and December 31, 2019, 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 bank credit rating agency reports. For more information about Farmer Mac's lender eligibility requirements, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Lenders" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Lenders."

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, 2020, Farmer Mac had \$1.0 billion of cash and cash equivalents and \$3.9 billion of investment securities. The management of the credit risk inherent in these investments is governed by Farmer Mac's internal policies as well as the Liquidity and Investment Regulations for Farmer Mac, which were issued by FCA and which establish criteria for investments that are eligible for Farmer Mac's investment portfolio, including limitations on asset class, dollar amount, issuer concentration, and credit quality. In addition to establishing a portfolio of highly liquid investments

as an available source of cash, the goals of Farmer Mac's investment policies are designed to minimize Farmer Mac's exposure to financial market volatility, preserve capital, and support Farmer Mac's access to the debt markets.

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

Farmer Mac's Liquidity and Investment Regulations and internal policies also establish concentration limits, which are intended to limit exposure to any single entity, issuer, or obligor. Farmer Mac's Liquidity and Investment Regulations limit Farmer Mac's total credit exposure to any single entity, issuer, or obligor of securities to 10% of Farmer Mac's regulatory capital (\$102.4 million as of December 31, 2020). However, Farmer Mac's current policy limits this total credit exposure to 5% of its regulatory capital (\$51.2 million as of December 31, 2020). 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 financial assets retained 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. This risk is primarily related to loans, loan participation interests, Farmer Mac Guaranteed Securities, USDA Securities, and certain investment securities due to the contractual right of borrowers to prepay their loans before the scheduled maturities. 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 see a drop in income if assets repay more slowly than expected in a rising interest rate environment and the associated debt must be replaced by higher-cost debt.

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 sensitivity 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 funded financial assets, liabilities, 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 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 to mitigate impacts from interest rates changes across the yield curve. As part of this debt issuance strategy, Farmer Mac seeks to issue a blend of liabilities and enter into financial derivative transactions across a variety of maturities to approximately align the liability cash flows with the forecasted asset cash flows.

Farmer Mac issues discount notes and both callable and non-callable medium-term notes across a spectrum of maturities to execute its debt issuance strategy. Callable debt is issued to mitigate prepayment risk associated with certain funded financial assets held on balance sheet. In general, as interest rates decline, prepayments typically increase, and Farmer Mac is able to extinguish certain callable debt issuances. Therefore, these callable liabilities are reduced around the same time and amount of the asset prepayments. The interest rate sensitivities of the debt together with financial derivatives tend to increase or decrease as interest rates change in a manner that fully or partially offset similar changes in the interest rate sensitivities of the funded financial assets. 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 retained assets, Farmer Mac incorporates behavioral prepayment models when projecting and valuing cash flows associated with these assets. Because borrowers' behaviors in various interest rate environments may change over time, Farmer Mac periodically evaluates the effectiveness of these models compared to actual prepayment experience and adjusts and refines the models as necessary to improve the precision of future prepayment forecasts.

Changes in interest rates may affect asset prepayment rates which may, in turn, impact durations and values of the assets. Declining interest rates generally increase prepayment rates, which shortens the duration of these assets, while rising interest rates tend to loan prepayments, thereby extending the duration of the assets.

Farmer Mac is subject to interest rate risk on loans and securities that Farmer Mac has committed to acquire but has not yet purchased (other than delinquent loans purchased through LTSPCs or loans designated for securitization under a forward purchase agreement). When Farmer Mac commits to purchase these 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 those loans. Farmer Mac manages the interest rate risk related to these loans by using futures contracts involving U.S. Treasury securities and other financial derivatives. Farmer Mac enters into U.S. Treasury futures contracts as a hedge against the level of interest rates.

Farmer Mac's \$1.0 billion of cash and cash equivalents mature within three months and are generally funded with debt having similar maturities. As of December 31, 2020, \$3.6 billion of the \$3.9 billion of investment securities (93%) were floating rate securities with rates that adjust within one year or fixed rate securities with original maturities between three months and one year. The floating rate securities are funded with effectively floating rate debt that closely matches the rate adjustment frequency of the associated investments. 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 stress tests and runs simulations on its portfolio of financial assets and liabilities for interest rate risk and examines a variety of metrics to quantify and manage its interest rate risk. These metrics include sensitivity to interest rate movements of market value of equity ("MVE") and projected net effective spread ("NES") as well as duration gap analysis. MVE represents management's estimate of the present value of all future cash flows from on- and off-balance sheet assets, liabilities, and financial derivatives, discounted at current interest rates and appropriate spreads. However, MVE is not indicative of the market value of Farmer Mac as a going concern because these market values are theoretical and do not reflect future business activities. 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. Because this analysis evaluates the effect of interest rate movements on the value of all future cash flows, this measure provides an evaluation of Farmer Mac's long-term interest rate risk.

Farmer Mac's NES simulation represents the difference between projected income 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 may be impacted by changes in market interest rates resulting from timing differences between maturities and re-pricing characteristics of assets and liabilities 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 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 the net estimated durations of Farmer Mac's funded assets, debt, and financial derivatives. Because duration is a measure of fair value sensitivity, duration gap quantifies the extent to which estimated fair value sensitivities for assets and liabilities are matched. Duration gap provides a relatively concise measure of the interest rate risk inherent in Farmer Mac's outstanding portfolio.

A positive duration gap denotes that the duration of Farmer Mac's funded assets is greater than the duration of its debt and financial derivatives. A positive duration gap indicates that fair value changes of Farmer Mac's funded assets is more sensitive to small interest rate movements than fair value changes of its debt and financial derivatives. Conversely, a negative duration gap indicates that fair value changes of Farmer Mac's funded assets are less sensitive to small interest rate movements than fair value changes 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 assets is effectively offset by the fair value change of its debt and financial derivatives.

Each of the interest rate metrics is produced using asset/liability models and is derived based on management's best estimates of factors such as forward interest rates across the yield curve, interest rate volatility, and asset prepayment speeds. 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, 2020 and December 31, 2019 to an immediate and instantaneous uniform or "parallel" shift in the yield curve:

Table 34

Interest Rate Scenario ⁽¹⁾	Percentage Change in MVE from Base Case	
	As of December 31, 2020 ⁽¹⁾	As of December 31, 2019
+100 basis points	4.9 %	2.7 %
-100 basis points	(0.2)%	(8.4)%

Interest Rate Scenario ⁽²⁾	Percentage Change in NES from Base Case	
	As of December 31, 2020 ⁽¹⁾	As of December 31, 2019 ⁽²⁾
+100 basis points	3.9 %	0.5 %
-100 basis points	— %	1.0 %

⁽¹⁾ The down 100 basis points shock scenario was replaced in 2020 with a proportional shock relative to 50% of the 3-month Treasury bill rate, with the approval of the Financial Risk Committee of the Board of Directors. The replacement down shock scenario was negative 4 basis points as of December 31, 2020.

⁽²⁾ The NES shock scenario of +100 and -100 basis points as of December 31, 2019 were updated (from 0.8% and 0.1%, respectively) to conform the underlying NES components of the shock scenario with the reported NES.

As of December 31, 2020, Farmer Mac's effective duration gap was negative 1.6 months, compared to negative 1.2 months as of December 31, 2019. In 2020, Farmer Mac updated its duration gap measure to funded assets, debt, and financial derivatives; the previously reported duration gap as of December 31, 2019 was negative 2.5 months. Interest rates decreased significantly during 2020 with the 2-year and 10-year US Treasury Note yield-to-maturity dropping by approximately 145 basis points and 100 basis points, respectively, versus year-end 2019. This rate movement contributed to reducing the duration of Farmer Mac's funded assets compared to its liabilities and financial derivatives, thereby widening Farmer Mac's duration gap. Furthermore, as of December 31, 2020, Farmer Mac implemented a replacement behavioral prepayment model that also contributed to a widening duration gap.

Financial Derivatives Transactions

The economic effects of financial derivatives are included in Farmer Mac's MVE, NES, and duration gap analyses. Farmer Mac enters into the following types of financial derivative transactions principally to protect against risk from the effects of market price or interest rate movements on the value of funded 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; and
- "basis swaps," in which Farmer Mac pays variable rates of interest based on one index to, and receives variable rates of interest based on another index from, counterparties.

As of December 31, 2020, Farmer Mac had \$15.4 billion combined notional amount of interest rate swaps, with terms ranging from less than one year to thirty years, of which \$6.3 billion were pay-fixed interest rate swaps, \$5.5 billion were receive-fixed interest rate swaps, and \$3.6 billion were basis swaps.

Farmer Mac enters into interest rate swap contracts to more closely match the cash flow and duration characteristics of its financial assets with those of its liabilities. For example, Farmer Mac transacts pay-

fixed interest rate swaps and issues floating rate debt to effectively create fixed rate funding that approximately matches duration with the corresponding assets being funded. Farmer Mac evaluates the overall cost of using the swap market in conjunction with debt issuance as a funding alternative to duration-matched debt and enters into interest rate swaps to manage interest rate risks across the balance sheet.

Certain financial derivatives are designated as fair value hedges of fixed rate assets classified as available for sale or liabilities to protect against fair value changes in the assets or liabilities related to a benchmark interest rate (e.g., LIBOR and 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 "(Losses)/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 variable rate debt, amounts recorded in accumulated other comprehensive income are reclassified to "Total interest expense" in conjunction with the recognition of interest expense on the debt. All of Farmer Mac's financial derivatives transactions are conducted under standard collateralized agreements that limit Farmer Mac's potential credit exposure to any counterparty. As of December 31, 2020 and December 31, 2019, Farmer Mac had no uncollateralized net exposures.

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 when Farmer Mac funds floating rate, or synthetic floating rate, assets with floating rate liabilities with shorter 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 to continue funding those assets.

In addition, many of Farmer Mac's floating rate assets may prepay before the contractual maturity date. Farmer Mac is also 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 synthetically floating rate assets that require floating rate funding.

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

- issuing short-term discount notes with maturities that match the reset period of the assets;
- issuing floating rate medium-term notes with maturities 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 as an alternative source of effectively floating rate funding.

To meet 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 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 liability issuance and liquidity management strategies.

However, if the funding cost of Farmer Mac's discount notes or medium-term notes were to increase relative to the benchmark market index to which the assets are being funded 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 in its net effective spread on the associated assets. Conversely, if the funding cost on Farmer Mac's discount notes or medium-term notes were to decrease relative to LIBOR (or a different market index) during that time, Farmer Mac would benefit from a commensurate increase in its net effective spread on those assets.

Farmer Mac's liability 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. ALCO regularly reviews Farmer Mac's liability issuance strategy to appropriately manage re-funding and repricing risk.

As of December 31, 2020, Farmer Mac held \$6.4 billion of floating rate assets in its lines of business and its investment portfolio that reset based on floating rate market indexes, primarily one-month and three-month LIBOR. As of the same date, Farmer Mac also had \$6.3 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest.

Following a period of market volatility in the first half of 2020, Farmer Mac's funding relative to LIBOR stabilized with spreads modestly higher compared to historical averages. Farmer Mac regularly adjusts its funding strategies to mitigate the effects of spread variability and seeks to maintain an effective funding cost in the context of its overall liability management and liquidity management strategies.

Discontinuation of LIBOR

As described in "Risk Factors—Market Risk", Farmer Mac faces risks associated with the reform, replacement, or discontinuation of the LIBOR benchmark interest rate and the transition to an alternative benchmark interest rate. We are currently evaluating the potential effect on our business of the replacement of the LIBOR benchmark interest rate.

As of December 31, 2020, Farmer Mac held \$5.1 billion of floating rate assets in its lines of business and its investment portfolio, had issued \$4.7 billion of floating rate debt, and had entered into \$14.6 billion notional amount of interest rate swaps, each of which reset based on LIBOR. In addition, our Non-Cumulative Series C Preferred Stock currently pays a fixed rate of interest until July 17, 2024. It becomes

redeemable at our option on July 18, 2024 and thereafter pays interest at a floating rate equal to three-month LIBOR plus 3.260%.

The market transition away from LIBOR and towards an alternative benchmark interest rate indices that may be developed is expected to be complicated and may require the development of term and credit adjustments to accommodate for differences between the benchmark interest rate indices. The transition may also result in different financial performance for previously booked transactions, require different hedging strategies, or require renegotiation of previously booked transactions. As of December 31, 2020, we had \$1.0 billion outstanding in medium-term notes based on the Secured Overnight Financing Rate (SOFR), a potential alternative benchmark interest rate.

Liquidity and Capital Resources

Farmer Mac's primary sources of funds to meet its liquidity and funding needs are the proceeds of its debt issuances, guarantee and commitment fees, net effective spread, loan repayments, and maturities of AgVantage securities. Farmer Mac regularly accesses the capital markets for funding, and Farmer Mac has maintained access to the capital markets at favorable rates throughout 2020 and 2019. Farmer Mac funds its purchases of eligible loan assets, USDA Securities, Farmer Mac Guaranteed Securities, and investment assets and finances its operations primarily by issuing debt obligations of various maturities in the public capital markets. As of December 31, 2020, Farmer Mac had outstanding discount notes of \$1.8 billion, medium-term notes that mature within one year of \$8.9 billion, and medium-term notes that mature after one year of \$11.0 billion.

Assuming continued access to the capital markets, Farmer Mac believes it has sufficient liquidity and capital resources to support its operations for the next 12 months and for the foreseeable future. Farmer Mac also has a contingency funding plan to manage unanticipated disruptions in its access to the capital markets. That plan involves borrowing through repurchase agreement arrangements and the sale of liquid assets. Farmer Mac must maintain a minimum of 90 days of liquidity under the Liquidity and Investment Regulations prescribed for Farmer Mac by FCA. In accordance with the methodology for calculating available days of liquidity under those regulations, Farmer Mac maintained a monthly average of 196 days of liquidity during 2020 and had 207 days of liquidity as of December 31, 2020. ALCO regularly reviews Farmer Mac's liquidity position and ensures the required minimums are maintained.

Farmer Mac maintains cash, cash equivalents (including U.S. Treasury securities and other short-term money market instruments), and other investment securities that can be drawn upon for liquidity needs. Farmer Mac's current policies authorize liquidity investments in:

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

The following table presents these assets as of December 31, 2020 and December 31, 2019:

Table 35

	<u>As of December 31, 2020</u>	<u>As of December 31, 2019</u>
	<i>(in thousands)</i>	
Cash and cash equivalents	\$ 1,033,941	\$ 604,381
Investment securities:		
Guaranteed by U.S. Government and its agencies	1,935,056	1,842,640
Guaranteed by GSEs	1,944,497	1,143,323
Asset-backed securities	19,171	18,912
Total	<u>\$ 4,932,665</u>	<u>\$ 3,609,256</u>

The increase in the investment portfolio since December 31, 2019 was to provide a greater level of liquidity in response to market disruptions driven by the COVID-19 pandemic, to prepare for the possibility of future volatility in the debt capital markets, and to support program asset growth as the overall funding needs for the balance sheet increased.

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, 2020, Farmer Mac was in compliance with its statutory capital requirements and was classified as within "level 1" (the highest compliance level).

In accordance with FCA's rule on capital planning, Farmer Mac's board of directors has adopted a policy for maintaining a sufficient level of "Tier 1" capital (consisting of retained earnings, paid-in capital, common stock, and qualifying preferred stock). That policy restricts Tier 1-eligible dividends and any discretionary bonus payments if Tier 1 capital falls below specified thresholds. As of December 31, 2020 and December 31, 2019, Farmer Mac's Tier 1 capital ratio was 14.1% and 12.9%, respectively. The increase in our Tier 1 capital ratio was due to the fact that capital growth, which reflects the issuance of the Series E and Series F Preferred Stock, partially offset by the redemption of the Series A Preferred Stock, outpaced the growth in risk-weighted assets during 2020. As of December 31, 2020, Farmer Mac was in compliance with its capital adequacy policy. Farmer Mac does not expect its compliance on an ongoing basis with FCA's rule on capital planning, including Farmer Mac's policy on Tier 1 capital, to materially affect Farmer Mac's operations or financial condition.

For more information about the capital requirements applicable to Farmer Mac, its capital adequacy policy, and FCA's rule on capital planning, see "Business—Government Regulation of Farmer Mac—Capital Standards." 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, 2020. 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 36

	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
	<i>(in thousands)</i>				
Discount notes ⁽¹⁾	\$ 1,797,659	\$ —	\$ —	\$ —	\$ 1,797,659
Medium-term notes ⁽¹⁾	8,949,870	5,816,659	2,271,750	2,972,372	20,010,651
Interest payments on fixed rate medium-term notes ⁽²⁾	163,320	226,095	134,352	255,575	779,342
Interest payments on floating rate medium-term notes ⁽³⁾	11,455	10,679	7,423	6,015	35,572

⁽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 regarding 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, 2020. 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, 2020 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(e) 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 real estate 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 37

	As of December 31,	
	2020	2019
	<i>(in thousands)</i>	
LTSPCs	\$ 2,881,856	\$ 3,002,349
Mandatory commitments to purchase loans and USDA Securities	125,811	65,056

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) Farmer Mac Guaranteed Securities, which are available through each of the Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit lines of business; and (2) LTSPCs, which are available through the Farm & Ranch and Rural Utilities lines of business. For securitization trusts where Farmer Mac is the primary beneficiary,

the trust assets and liabilities are included on Farmer Mac's consolidated balance sheet. For securitization trusts where Farmer Mac is not the primary beneficiary and in the event of de-consolidation, both of these alternatives create off-balance sheet obligations for Farmer Mac. See Note 12 to the consolidated financial statements for more information about consolidation and Farmer Mac's off-balance sheet business activities.

As of December 31, 2020 and 2019, outstanding off-balance sheet LTSPCs and Farmer Mac Guaranteed Securities totaled \$3.3 billion and \$3.5 billion, respectively. The following table presents the balance of outstanding LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities as of December 31, 2020 and 2019:

Table 38

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

	As of December 31,	
	2020	2019
<i>(in thousands)</i>		
Farm & Ranch obligations:		
LTSPCs	\$ 2,325,431	\$ 2,393,071
Farm & Ranch Guaranteed Securities	79,312	107,322
Total Farm & Ranch obligations	2,404,743	2,500,393
USDA Guarantees obligations:		
Farmer Mac Guaranteed USDA Securities	299,298	389,216
Rural Utilities obligations:		
LTSPCs	556,425	609,278
Institutional Credit obligations:		
AgVantage Securities	4,412	7,567
Total off-balance sheet	<u>\$ 3,264,878</u>	<u>\$ 3,506,454</u>

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

Regulatory Matters

Section 4013 of the CARES Act that was signed into law on March 27, 2020 provides financial institutions the option to temporarily suspend certain requirements under U.S. GAAP related to TDRs for a limited period of time to account for the effects of the COVID-19 pandemic. On April 10, 2020, Farmer Mac's prudential regulator, FCA (through OSMO) issued guidance to Farmer Mac to encourage Farmer Mac to work with its lending and servicing partners in approving servicing actions for borrowers impacted by COVID-19, including working with other Farm Credit System institutions on approvals for loans to which statutory borrower rights are attached (primarily in LTSPCs), as well as guidance on reporting TDRs for lines of business affected by the COVID-19 outbreak. The FCA's guidance on TDRs was consistent with the guidance provided by other financial regulatory agencies and the Financial Accounting Standards Board that short-term modifications made on a good faith basis in response to the COVID-19 national emergency are not TDRs when the borrower was not past due on loan payments before the March 13, 2020 presidential proclamation declaring the COVID-19 outbreak a national emergency.

In response to the COVID-19 pandemic and the related economic effects, Congress passed a series of stimulus measures (including the CARES Act) that delivered more than \$35 billion in emergency aid to farmers and ranchers in 2020. In addition, through funding provided in the various COVID-19 stimulus packages, the USDA oversaw the purchase and delivery of \$4.5 billion in food to food banks, churches, community organizations, schools, and tribal organizations through the Farmers to Families Food Box Program during 2020. These purchases have helped support commodity prices and serve millions of Americans in need. On December 27, 2020, President Trump signed into law a bill providing for, among other measures, \$13 billion in additional support for U.S. agriculture through direct payments and food support funding that is scheduled to be disbursed in 2021.

With the start of a new Congress and President Biden's Administration, Farmer Mac continues to monitor legislation and regulations that could affect Farmer Mac, farmers, ranchers, rural lenders, and rural America in general.

Other Matters

The expected effects of recently issued accounting pronouncements on the consolidated financial statements are presented in Note 2(p) to the consolidated financial statements.

Supplemental Information

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

Table 39

	New Business Volume							Total
	Farm & Ranch		USDA Guarantees	Rural Utilities		Institutional Credit		
	Loans	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage		
	<i>(in thousands)</i>							
For the quarter ended:								
December 31, 2020	\$ 731,434	\$ 141,332	\$ 180,520	\$ 189,729	\$ —	\$ 96,424	\$ 1,339,439	
September 30, 2020	740,823	94,495	225,494	62,300	—	211,908	1,335,020	
June 30, 2020	609,284	85,390	224,016	339,366	19,500	430,024	1,707,580	
March 31, 2020	401,853	73,674	147,906	152,668	—	560,395	1,336,496	
December 31, 2019	602,750	65,614	143,565	102,900	—	371,075	1,285,904	
September 30, 2019	309,805	125,022	113,664	117,279	—	402,611	1,068,381	
June 30, 2019	248,152	57,321	118,335	105,000	—	659,447	1,188,255	
March 31, 2019	203,156	91,215	57,223	546,198	—	825,417	1,723,209	
December 31, 2018	285,008	80,840	90,297	3,000	—	585,814	1,044,959	
For the year ended:								
December 31, 2020	\$ 2,483,394	\$ 394,891	\$ 777,936	\$ 744,063	\$ 19,500	\$ 1,298,751	\$ 5,718,535	
December 31, 2019	1,363,863	339,172	432,787	871,377	—	2,258,550	5,265,749	

Table 40

Repayments of Assets by Line of Business

	Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	Total
	Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	
<i>(in thousands)</i>								
For the quarter ended:								
Scheduled	\$ 175,613	\$ 4,213	\$ 26,895	\$ 29,120	\$ 37,062	\$ 19,528	\$ 676,567	\$ 968,998
Unscheduled	231,342	2,242	95,264	99,811	1,610	—	—	430,269
December 31, 2020	<u>\$ 406,955</u>	<u>\$ 6,455</u>	<u>\$ 122,159</u>	<u>\$ 128,931</u>	<u>\$ 38,672</u>	<u>\$ 19,528</u>	<u>\$ 676,567</u>	<u>\$ 1,399,267</u>
Scheduled	\$ 174,986	\$ 2,524	\$ 32,276	\$ 29,654	\$ 54,513	\$ 14,100	\$ 547,236	\$ 855,289
Unscheduled	326,025	1,934	66,074	138,518	—	—	—	532,551
September 30, 2020	<u>\$ 501,011</u>	<u>\$ 4,458</u>	<u>\$ 98,350</u>	<u>\$ 168,172</u>	<u>\$ 54,513</u>	<u>\$ 14,100</u>	<u>\$ 547,236</u>	<u>\$ 1,387,840</u>
Scheduled	\$ 101,264	\$ 3,043	\$ 39,010	\$ 37,879	\$ 23,589	\$ 25,132	\$ 471,295	\$ 701,212
Unscheduled	248,890	4,034	92,177	154,536	3,935	—	—	503,572
June 30, 2020	<u>\$ 350,154</u>	<u>\$ 7,077</u>	<u>\$ 131,187</u>	<u>\$ 192,415</u>	<u>\$ 27,524</u>	<u>\$ 25,132</u>	<u>\$ 471,295</u>	<u>\$ 1,204,784</u>
Scheduled	\$ 128,768	\$ 6,132	\$ 50,393	\$ 43,069	\$ 34,235	\$ 13,593	\$ 304,540	\$ 580,730
Unscheduled	191,260	3,888	60,442	78,806	—	—	—	334,396
March 31, 2020	<u>\$ 320,028</u>	<u>\$ 10,020</u>	<u>\$ 110,835</u>	<u>\$ 121,875</u>	<u>\$ 34,235</u>	<u>\$ 13,593</u>	<u>\$ 304,540</u>	<u>\$ 915,126</u>
Scheduled	\$ 57,488	\$ 4,737	\$ 39,878	\$ 25,142	\$ 10,317	\$ 10,551	\$ 656,095	\$ 804,208
Unscheduled	105,671	3,247	74,121	66,011	34,063	—	13,000	296,113
December 31, 2019	<u>\$ 163,159</u>	<u>\$ 7,984</u>	<u>\$ 113,999</u>	<u>\$ 91,153</u>	<u>\$ 44,380</u>	<u>\$ 10,551</u>	<u>\$ 669,095</u>	<u>\$ 1,100,321</u>
Scheduled	\$ 97,421	\$ 3,095	\$ 22,713	\$ 27,853	\$ 31,656	\$ 8,692	\$ 441,575	\$ 633,005
Unscheduled	129,676	2,663	76,883	39,442	—	—	1,088	249,752
September 30, 2019	<u>\$ 227,097</u>	<u>\$ 5,758</u>	<u>\$ 99,596</u>	<u>\$ 67,295</u>	<u>\$ 31,656</u>	<u>\$ 8,692</u>	<u>\$ 442,663</u>	<u>\$ 882,757</u>
Scheduled	\$ 39,879	\$ 3,758	\$ 58,779	\$ 38,676	\$ 6,951	\$ 17,092	\$ 612,964	\$ 778,099
Unscheduled	64,912	3,399	58,979	43,044	—	—	—	170,334
June 30, 2019	<u>\$ 104,791</u>	<u>\$ 7,157</u>	<u>\$ 117,758</u>	<u>\$ 81,720</u>	<u>\$ 6,951</u>	<u>\$ 17,092</u>	<u>\$ 612,964</u>	<u>\$ 948,433</u>
Scheduled	\$ 112,973	\$ 5,843	\$ 74,054	\$ 41,266	\$ 31,492	\$ 7,660	\$ 470,812	\$ 744,100
Unscheduled	67,608	1,798	50,482	46,798	24,448	—	5,587	196,721
March 31, 2019	<u>\$ 180,581</u>	<u>\$ 7,641</u>	<u>\$ 124,536</u>	<u>\$ 88,064</u>	<u>\$ 55,940</u>	<u>\$ 7,660</u>	<u>\$ 476,399</u>	<u>\$ 940,821</u>
Scheduled	\$ 36,006	\$ 8,331	\$ 35,682	\$ 24,793	\$ 6,321	\$ 16,062	\$ 568,277	\$ 695,472
Unscheduled	56,299	9,257	33,319	21,135	20,538	—	—	140,548
December 31, 2018	<u>\$ 92,305</u>	<u>\$ 17,588</u>	<u>\$ 69,001</u>	<u>\$ 45,928</u>	<u>\$ 26,859</u>	<u>\$ 16,062</u>	<u>\$ 568,277</u>	<u>\$ 836,020</u>
For the year ended:								
Scheduled	\$ 580,631	\$ 15,912	\$ 148,574	\$ 139,722	\$ 149,399	\$ 72,353	\$ 1,999,638	\$ 3,106,229
Unscheduled	997,517	12,098	313,957	471,671	5,545	—	—	1,800,788
December 31, 2020	<u>\$ 1,578,148</u>	<u>\$ 28,010</u>	<u>\$ 462,531</u>	<u>\$ 611,393</u>	<u>\$ 154,944</u>	<u>\$ 72,353</u>	<u>\$ 1,999,638</u>	<u>\$ 4,907,017</u>
Scheduled	\$ 307,761	\$ 17,433	\$ 195,424	\$ 132,937	\$ 80,416	\$ 43,995	\$ 2,181,446	\$ 2,959,412
Unscheduled	367,867	11,107	260,465	195,295	58,511	—	19,675	912,920
December 31, 2019	<u>\$ 675,628</u>	<u>\$ 28,540</u>	<u>\$ 455,889</u>	<u>\$ 328,232</u>	<u>\$ 138,927</u>	<u>\$ 43,995</u>	<u>\$ 2,201,121</u>	<u>\$ 3,872,332</u>

Table 41

Lines of Business - Outstanding Business Volume

	Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	Total
	Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	
	<i>(in thousands)</i>							
As of:								
December 31, 2020	\$6,176,438	\$ 79,312	\$2,325,431	\$ 2,786,718	\$ 2,260,412	\$ 556,425	\$ 7,739,359	\$ 21,924,095
September 30, 2020	5,857,324	85,767	2,306,258	2,735,129	2,109,355	575,953	8,319,502	21,989,288
June 30, 2020	5,617,512	90,225	2,310,113	2,677,807	2,101,568	590,053	8,654,830	22,042,108
March 31, 2020	5,358,382	97,302	2,355,910	2,646,206	1,789,726	595,685	8,696,101	21,539,312
December 31, 2019	5,276,557	107,322	2,393,071	2,620,175	1,671,293	609,278	8,440,246	21,117,942
September 30, 2019	4,836,966	115,306	2,441,456	2,567,763	1,612,773	619,829	8,738,266	20,932,359
June 30, 2019	4,754,258	121,064	2,416,030	2,521,394	1,527,150	628,521	8,778,318	20,746,735
March 31, 2019	4,610,897	128,221	2,476,467	2,484,779	1,429,101	645,613	8,731,835	20,506,913
December 31, 2018	4,588,322	135,862	2,509,787	2,515,620	938,843	653,273	8,382,817	19,724,524

Table 42

On-Balance Sheet Outstanding Business Volume

	Fixed Rate	5- to 10-Year ARMs & Resets	1-Month to 3-Year ARMs	Total Held in Portfolio
	<i>(in thousands)</i>			
	As of:			
December 31, 2020	\$ 11,330,414	\$ 2,816,840	\$ 4,511,964	\$ 18,659,218
September 30, 2020	10,879,372	2,811,547	5,013,640	18,704,559
June 30, 2020	10,793,629	2,845,266	5,076,445	18,715,340
March 31, 2020	10,296,598	2,818,869	4,996,478	18,111,945
December 31, 2019	10,045,712	2,863,199	4,702,577	17,611,488
September 30, 2019	9,642,802	2,850,000	4,549,689	17,042,491
June 30, 2019	9,446,117	2,825,151	4,601,917	16,873,185
March 31, 2019	9,206,082	2,720,639	4,643,506	16,570,227
December 31, 2018	8,325,347	2,717,505	4,705,169	15,748,021

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

Table 43

Net Effective Spread by Line of Business												
Farm & Ranch		USDA Guarantees		Rural Utilities		Institutional Credit		Corporate		Net Effective Spread		
Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	
<i>(dollars in thousands)</i>												
For the quarter ended:												
December 31, 2020 ⁽¹⁾	\$ 20,313	1.75 %	\$ 6,786	1.10 %	\$ 7,322	1.35 %	\$ 17,401	0.85 %	\$ 2,700	0.22 %	\$ 54,522	0.98 %
September 30, 2020	18,025	1.67 %	5,865	0.97 %	6,939	1.32 %	18,601	0.87 %	2,372	0.23 %	51,802	0.96 %
June 30, 2020	16,733	1.71 %	4,689	0.81 %	5,516	1.15 %	18,782	0.86 %	749	0.08 %	46,469	0.89 %
March 31, 2020	14,938	1.64 %	4,625	0.81 %	4,920	1.14 %	17,702	0.84 %	1,978	0.21 %	44,163	0.89 %
December 31, 2019 ⁽¹⁾	16,374	1.90 %	4,363	0.78 %	4,871	1.17 %	18,008	0.85 %	2,375	0.27 %	45,991	0.95 %
September 30, 2019	13,181	1.66 %	4,314	0.79 %	4,502	1.16 %	17,807	0.84 %	2,657	0.30 %	42,461	0.90 %
June 30, 2019	13,335	1.72 %	4,097	0.76 %	3,996	1.10 %	17,371	0.82 %	2,556	0.34 %	41,355	0.91 %
March 31, 2019	12,737	1.70 %	3,964	0.74 %	3,233	1.12 %	16,373	0.79 %	2,494	0.35 %	38,801	0.89 %
December 31, 2018	13,288	1.79 %	4,630	0.85 %	2,833	1.19 %	15,751	0.80 %	2,353	0.36 %	38,855	0.93 %

⁽¹⁾ See Note 14 to the consolidated financial statements for a reconciliation of GAAP net interest income by line of business to net effective spread by line of business for the years ended December 31, 2020 and 2019.

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

Table 44

	Core Earnings by Quarter End								
	December 2020	September 2020	June 2020	March 2020	December 2019	September 2019	June 2019	March 2019	December 2018
	<i>(in thousands)</i>								
Revenues:									
Net effective spread	\$ 54,522	\$ 51,802	\$ 46,469	\$ 44,163	\$ 45,991	\$ 42,461	\$ 41,355	\$ 38,801	\$ 38,855
Guarantee and commitment fees	4,652	4,659	4,943	4,896	5,432	5,208	5,276	5,419	5,309
Other	512	453	1,048	674	100	389	777	509	(129)
Total revenues	59,686	56,914	52,460	49,733	51,523	48,058	47,408	44,729	44,035
Credit related expense/(income):									
Provision for/(release of) losses	2,973	1,200	51	3,831	2,851	623	420	(393)	166
REO operating expenses	—	—	—	—	—	—	64	—	—
Losses/(gains) on sale of REO	22	—	—	(485)	—	—	—	—	—
Total credit related expense/(income)	2,995	1,200	51	3,346	2,851	623	484	(393)	166
Operating expenses:									
Compensation and employee benefits	9,497	8,791	8,087	10,127	6,732	7,654	6,770	7,606	7,167
General and administrative	6,274	5,044	5,295	5,363	5,773	5,253	4,689	4,596	5,829
Regulatory fees	750	725	725	725	725	688	687	688	687
Total operating expenses	16,521	14,560	14,107	16,215	13,230	13,595	12,146	12,890	13,683
Net earnings	40,170	41,154	38,302	30,172	35,442	33,840	34,778	32,232	30,186
Income tax expense	8,470	8,297	8,016	6,598	7,526	7,018	7,351	6,715	6,431
Preferred stock dividends	5,269	5,166	3,939	3,431	3,432	3,427	3,785	3,296	3,296
Core earnings	\$ 26,431	\$ 27,691	\$ 26,347	\$ 20,143	\$ 24,484	\$ 23,395	\$ 23,642	\$ 22,221	\$ 20,459
Reconciling items:									
(Losses)/gains on undesignated financial derivatives due to fair value changes	(1,758)	(4,149)	8,700	(6,484)	4,469	(7,117)	10,485	2,240	(96)
Gains/(losses) on hedging activities due to fair value changes	3,827	(5,245)	(2,676)	(5,925)	(220)	(4,535)	(1,438)	(2,817)	(853)
Unrealized gains/(losses) on trading assets	223	(258)	(20)	106	172	49	61	44	57
Net effects of amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(77)	97	35	3	40	(7)	(139)	(16)	67
Net effects of terminations or net settlements on financial derivatives	1,583	233	720	(1,300)	1,339	232	(592)	110	(312)
Issuance costs on the retirement of preferred stock	—	(1,667)	—	—	—	—	(1,956)	—	—
Income tax effect related to reconciling items	(798)	1,957	(1,419)	2,856	(1,218)	2,389	(1,759)	92	238
Net income attributable to common stockholders	\$ 29,431	\$ 18,659	\$ 31,687	\$ 9,399	\$ 29,066	\$ 14,406	\$ 28,304	\$ 21,874	\$ 19,560

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, 2020. 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, 2020 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, 2020, 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, 2020 and 2019, 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, 2020, 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, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 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, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for credit losses in 2020.

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 Available-for-sale 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 Farm & Ranch, USDA Guarantees, or Rural Utilities 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 available-for-sale AgVantage securities as of December 31, 2020 was \$6.6 billion, and the fair value of the available-for-sale AgVantage securities of December 31, 2020 was \$6.9

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 available-for-sale 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 available-for-sale 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 available-for-sale 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 available-for-sale 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
McLean, Virginia
February 25, 2021

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	As of	
	December 31, 2020	December 31, 2019
	<i>(in thousands)</i>	
Assets:		
Cash and cash equivalents	\$ 1,033,941	\$ 604,381
Investment securities:		
Available-for-sale, at fair value (amortized cost of \$3,843,666 and \$2,961,430, respectively)	3,853,692	2,959,843
Held-to-maturity, at amortized cost	45,032	45,032
Total Investment Securities	<u>3,898,724</u>	<u>3,004,875</u>
Farmer Mac Guaranteed Securities:		
Available-for-sale, at fair value (amortized cost of \$6,594,992 and \$7,016,971, respectively)	6,947,701	7,143,025
Held-to-maturity, at amortized cost	1,175,792	1,447,451
Total Farmer Mac Guaranteed Securities	<u>8,123,493</u>	<u>8,590,476</u>
USDA Securities:		
Trading, at fair value	6,695	8,913
Held-to-maturity, at amortized cost	2,473,626	2,232,160
Total USDA Securities	<u>2,480,321</u>	<u>2,241,073</u>
Loans:		
Loans held for investment, at amortized cost	7,261,933	5,390,977
Loans held for investment in consolidated trusts, at amortized cost	1,287,045	1,600,917
Allowance for losses	(13,832)	(10,454)
Total loans, net of allowance	<u>8,535,146</u>	<u>6,981,440</u>
Financial derivatives, at fair value	17,468	10,519
Interest receivable (includes \$16,401 and \$20,568, respectively, related to consolidated trusts)	186,429	199,195
Guarantee and commitment fees receivable	37,113	38,442
Deferred tax asset, net	18,321	16,510
Prepaid expenses and other assets	24,545	22,463
Total Assets	<u>\$ 24,355,501</u>	<u>\$ 21,709,374</u>
Liabilities and Equity:		
Liabilities:		
Notes payable	\$ 21,848,917	\$ 19,098,648
Debt securities of consolidated trusts held by third parties	1,323,786	1,616,504
Financial derivatives, at fair value	29,892	27,042
Accrued interest payable (includes \$14,370 and \$18,018, respectively, related to consolidated trusts)	92,738	106,959
Guarantee and commitment obligation	35,535	36,700
Accounts payable and accrued expenses	28,879	22,081
Reserve for losses	3,277	2,164
Total Liabilities	<u>23,363,024</u>	<u>20,910,098</u>
Commitments and Contingencies (Note 12)		
Equity:		
Preferred stock:		
Series A, par value \$25 per share, 2,400,000 shares authorized, issued and outstanding as of December 31, 2019 (redemption value \$60,000,000)	—	58,333
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	—
Series F, par value \$25 per share, 4,800,000 shares authorized, issued and outstanding	116,160	—
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, 9,205,897 shares and 9,180,744 shares outstanding, respectively	9,206	9,181
Additional paid-in capital	122,899	119,304
Accumulated other comprehensive loss, net of tax	(13,923)	(16,161)
Retained earnings	509,560	457,047
Total Equity	<u>992,477</u>	<u>799,276</u>
Total Liabilities and Equity	<u>\$ 24,355,501</u>	<u>\$ 21,709,374</u>

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,		
	2020	2019	2018
	<i>(in thousands, except per share amounts)</i>		
Interest income:			
Investments and cash equivalents	\$ 42,144	\$ 81,522	\$ 55,179
Farmer Mac Guaranteed Securities and USDA Securities	227,691	333,896	290,953
Loans	233,699	229,675	198,152
Total interest income	503,534	645,093	544,284
Total interest expense	312,946	471,958	369,848
Net interest income	190,588	173,135	174,436
Provision for losses	(7,805)	(3,504)	(238)
Net interest income after provision for losses	182,783	169,631	174,198
Non-interest income/(expense):			
Guarantee and commitment fees	12,549	13,666	13,976
(Losses)/gains on financial derivatives	(246)	5,282	(3,687)
Gains on trading securities	50	326	81
Losses on sale of available-for-sale investment securities	—	(236)	—
Gains/(losses) on sale of real estate owned	463	—	(7)
(Provision)/release of reserve for losses	(250)	3	(97)
Other income	3,487	1,904	1,377
Non-interest income/(expense)	16,053	20,945	11,643
Operating expenses:			
Compensation and employee benefits	36,502	28,762	27,534
General and administrative	21,976	20,311	19,707
Regulatory fees	2,925	2,788	2,562
Real estate owned operating costs, net	—	64	16
Operating expenses	61,403	51,925	49,819
Income before income taxes	137,433	138,651	136,022
Income tax expense	28,785	29,105	27,942
Net income	108,648	109,546	108,080
Preferred stock dividends	(17,805)	(13,940)	(13,182)
Loss on retirement of preferred stock	(1,667)	(1,956)	—
Net income attributable to common stockholders	\$ 89,176	\$ 93,650	\$ 94,898
Earnings per common share:			
Basic earnings per common share	\$ 8.31	\$ 8.76	\$ 8.91
Diluted earnings per common share	\$ 8.27	\$ 8.69	\$ 8.83

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,		
	2020	2019	2018
	<i>(in thousands)</i>		
Net income	\$ 108,648	\$ 109,546	\$ 108,080
Other comprehensive income/(loss) before taxes:			
Net unrealized gains/(losses) on available-for-sale securities	37,291	(22,831)	(29,980)
Net changes in held-to-maturity securities	(12,677)	(13,415)	(6,067)
Net unrealized (losses)/gains on cash flow hedges	(21,780)	(15,801)	2,938
Other comprehensive income/(loss) before tax	2,834	(52,047)	(33,109)
Income tax (expense)/benefit related to other comprehensive income/(loss)	(596)	10,930	6,953
Other comprehensive income/(loss) net of tax	2,238	(41,117)	(26,156)
Comprehensive income	\$ 110,886	\$ 68,429	\$ 81,924

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	Retained Earnings	Total Equity
	Shares	Amount	Shares	Amount		Income/(Loss)		
	<i>(in thousands)</i>							
Balance as of January 1, 2018	8,400	\$ 204,759	10,619	\$ 10,619	\$ 118,979	\$ 51,112	\$ 323,175	\$ 708,644
Net Income	—	—	—	—	—	—	108,080	108,080
Other comprehensive loss, net of tax	—	—	—	—	—	(26,156)	—	(26,156)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(13,182)	(13,182)
Common stock (cash dividend of \$0.58 per share)	—	—	—	—	—	—	(24,722)	(24,722)
Issuance of Class C Common Stock	—	—	50	50	7	—	—	57
Stock-based compensation cost	—	—	—	—	2,518	—	—	2,518
Other stock-based award activity	—	—	—	—	(2,682)	—	—	(2,682)
Balance as of December 31, 2018	8,400	\$ 204,759	10,669	\$ 10,669	\$ 118,822	\$ 24,956	\$ 393,351	\$ 752,557
Net income	—	—	—	—	—	—	109,546	109,546
Other comprehensive loss, net of tax	—	—	—	—	—	(41,117)	—	(41,117)
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(13,940)	(13,940)
Common stock (cash dividend of \$0.70 per share)	—	—	—	—	—	—	(29,954)	(29,954)
Issuance of Series D Preferred Stock	4,000	96,659	—	—	—	—	—	96,659
Redemption of Series B Preferred Stock	(3,000)	(73,044)	—	—	—	—	—	(73,044)
Loss on retirement of preferred stock	—	—	—	—	—	—	(1,956)	(1,956)
Issuance of Class C Common Stock	—	—	43	43	44	—	—	87
Stock-based compensation cost	—	—	—	—	2,258	—	—	2,258
Other stock-based award activity	—	—	—	—	(1,820)	—	—	(1,820)
Balance as of December 31, 2019	9,400	\$ 228,374	10,712	\$ 10,712	\$ 119,304	\$ (16,161)	\$ 457,047	\$ 799,276
Cumulative effect adjustment from adoption of current expected credit loss standard	—	—	—	—	—	—	(2,099)	\$ (2,099)
Balances as of January 1, 2020	9,400	\$ 228,374	10,712	\$ 10,712	\$ 119,304	\$ (16,161)	\$ 454,948	\$ 797,177
Net Income	—	—	—	—	—	—	108,648	108,648
Other comprehensive income, net of tax	—	—	—	—	—	2,238	—	2,238
Cash dividends:								
Preferred stock	—	—	—	—	—	—	(17,805)	(17,805)
Common stock (cash dividend of \$0.80 per share)	—	—	—	—	—	—	(34,333)	(34,333)
Issuance of Series E preferred stock	3,180	77,003	—	—	—	—	—	77,003
Issuance of Series F preferred stock	4,800	116,160	—	—	—	—	—	116,160
Redemption of Series A preferred stock	(2,400)	(58,333)	—	—	—	—	—	(58,333)
Loss on retirement of preferred stock	—	—	—	—	—	—	(1,667)	(1,667)
Issuance of Class C Common Stock	—	—	29	29	56	—	—	85
Repurchase of Class C Common Stock	—	—	(4)	(4)	—	—	(231)	(235)
Stock-based compensation cost	—	—	—	—	4,128	—	—	4,128
Other stock-based award activity	—	—	—	—	(589)	—	—	(589)
Balance as of December 31, 2020	14,980	\$ 363,204	10,737	\$ 10,737	\$ 122,899	\$ (13,923)	\$ 509,560	\$ 992,477

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 December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Cash flows from operating activities:			
Net income	\$ 108,648	\$ 109,546	\$ 108,080
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	8,343	(10,399)	(1,104)
Amortization of debt premiums, discounts, and issuance costs	21,319	50,052	30,207
Net change in fair value of trading securities, hedged assets, and financial derivatives	(256,466)	(220,080)	(23,747)
Gain/(loss) on sale of real estate owned	(463)	—	7
Total provision for allowance for losses	8,055	3,501	335
Excess tax benefits related to stock-based awards	(440)	449	946
Deferred income taxes	(2,406)	789	2,625
Other	—	236	—
Stock-based compensation expense	4,128	2,258	2,517
Purchases of loans held for sale	(59,150)	—	(25,000)
Proceeds from the sale of loans held for sale	15,000	—	25,000
Proceeds from repayment of loans purchased as held for sale	59,370	54,195	92,060
Net change in:			
Interest receivable	11,054	(19,080)	(25,866)
Guarantee and commitment fees receivable	164	(59)	(188)
Other assets	(3,348)	(2,744)	(6,435)
Accrued interest payable	(14,221)	10,216	21,341
Other liabilities	5,866	1,421	(747)
Net cash (used in)/provided by operating activities	(94,547)	(19,699)	200,031
Cash flows from investing activities:			
Purchases of available-for-sale investment securities	(2,852,658)	(2,166,376)	(1,221,392)
Purchases of Farmer Mac Guaranteed Securities and USDA Securities	(2,074,701)	(2,691,104)	(3,470,832)
Purchases of loans held for investment	(3,167,198)	(2,234,715)	(947,495)
Purchases of defaulted loans	(6,272)	(469)	(1,483)
Proceeds from repayment of available-for-sale investment securities	1,961,895	1,425,402	1,242,310
Proceeds from repayment of Farmer Mac Guaranteed Securities and USDA Securities	2,517,957	2,190,702	2,813,041
Proceeds from repayment of loans purchased as held for investment	1,715,663	758,192	611,344
Proceeds from sale of available-for-sale investment securities	—	12,367	—
Proceeds from sale of Farmer Mac Guaranteed Securities	165,054	321,414	382,929
Proceeds from sale of real estate owned	4,169	—	116
Net cash used in investing activities	(1,736,091)	(2,384,587)	(591,462)
Cash flows from financing activities:			
Proceeds from issuance of discount notes	68,548,733	64,642,545	41,726,788
Proceeds from issuance of medium-term notes	13,509,754	10,195,775	7,692,845
Payments to redeem discount notes	(68,960,492)	(64,079,322)	(41,891,576)
Payments to redeem medium-term notes	(10,414,765)	(7,970,126)	(6,834,057)
Payments to third parties on debt securities of consolidated trusts	(504,807)	(181,493)	(138,806)
Proceeds from common stock issuance	56	44	7
Retirement of preferred stock	(60,000)	(75,000)	—
Proceeds from preferred stock issuance, net of stock issuance costs	193,163	96,659	—
Tax payments related to share-based awards	(560)	(1,777)	(2,631)
Purchases of common stock	(235)	—	—
Dividends paid on common and preferred stock	(50,649)	(43,894)	(37,905)
Net cash provided by financing activities	2,260,198	2,583,411	514,665
Net change in cash and cash equivalents	429,560	179,125	123,234
Cash and cash equivalents at beginning of period	604,381	425,256	302,022
Cash and cash equivalents at end of period	\$ 1,033,941	\$ 604,381	\$ 425,256
Cash paid during the period for:			
Interest	283,335	365,526	268,728
Income taxes	30,000	23,100	30,882
Non-cash activity:			
Real estate owned acquired through loan liquidation	—	—	128
Loans acquired and securitized as Farmer Mac Guaranteed Securities	165,054	321,414	382,929
Consolidation of Farmer Mac Guaranteed Securities from off-balance sheet to loans held for investment in consolidated trusts and to debt securities of consolidated trusts held by third parties	165,054	263,561	255,080
Reclassification of defaulted loans from loans held for investment in consolidated trusts to loans held for investment	47,036	5,479	7,748
Reclassification of loans held for sale to loans held for investment	44,150	—	—
Capitalized interest	1,348	—	—
Charge-off from the allowance for losses	5,759	—	—
Purchases of securities - traded, not yet settled	—	—	(1,400)

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
NOTES TO 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;
- providing advances against eligible loans by purchasing obligations secured by those loans;
- securitizing assets and guaranteeing the payment of principal and interest on the resulting securities that represent interests in, or obligations secured by, pools of eligible loans; and
- issuing long-term standby purchase commitments ("LTSPCs") for eligible loans.

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

(b) Cash and Cash Equivalents

Farmer Mac considers 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, and evaluates the securities for other-than-temporary impairment. 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.

(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 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(p) 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.

Troubled Debt Restructuring ("TDR")

A modification to the contractual terms of a loan that results in granting a concession to a borrower experiencing financial difficulties is considered a TDR. Farmer Mac has granted a concession when, as a result of the restructuring, it does not expect to collect all amounts due in a timely manner, including interest accrued at the original contract rate. In making its determination of whether a borrower is experiencing financial difficulties, Farmer Mac considers several factors, including whether (1) the borrower has declared or is in the process of declaring bankruptcy, (2) there is substantial doubt as to whether the borrower will continue to be a going concern, and (3) the borrower can obtain funds from other sources at an effective interest rate at or near a current market interest rate for debt with similar risk characteristics.

(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 real estate mortgage loans, Rural Utilities 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 the timely payment of principal and interest 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 Farm & Ranch Guaranteed Security 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 property 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.

(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 "(Losses)/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 "Net interest income" in the consolidated statements of operations. Interest accruals on derivatives designated in fair value hedge relationships are also recorded in "Net interest income" in the consolidated statements of operations. For financial derivatives designated in cash flow hedge 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.

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

Current Expected Credit Loss ("CECL")

On January 1, 2020, Farmer Mac adopted Accounting Standards Update 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. Under CECL, 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. Under CECL, 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"). Additionally, Farmer Mac 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 Utilities line of business. Upon the adoption of CECL, Farmer Mac measures its expected credit losses for the expected life of all financial instruments, including its Rural Utilities 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 industry.

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, under CECL

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, under CECL

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 Farm & Ranch, Rural Utilities, and Institutional Credit;
- 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, under CECL

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"), under CECL

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.

COVID-19 Payment Deferments

The Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was signed into law on March 27, 2020. Section 4013 of the CARES Act titled "Temporary Relief from Troubled Debt Restructurings" provides financial institutions the option to temporarily suspend certain requirements under U.S. GAAP related to troubled debt restructurings ("TDRs") for a limited period of time to account for the effects of the novel coronavirus disease 2019 ("COVID-19"). On April 10, 2020, Farmer Mac's prudential regulator, the Office of Secondary Market Oversight (OSMO) within the Farm Credit Administration (FCA), issued guidance to Farmer Mac on loan servicing and reporting TDRs for lines of business affected by the COVID-19 outbreak. This guidance was consistent with the guidance provided by other financial regulatory agencies and the Financial Accounting Standards Board that short-term modifications made on a good faith basis in response to the COVID-19 national emergency are not TDRs when the borrower was not past due on loan payments before the March 13, 2020 presidential proclamation declaring the COVID-19 outbreak a national emergency.

During second quarter 2020, Farmer Mac implemented the guidance from FCA by granting up to 6-month payment deferments to borrowers who have been economically impacted by COVID-19. Farmer Mac deems loans under a COVID-19 payment deferment not to be past due and continues to accrue interest on those loans. Furthermore, Farmer Mac does not consider a payment deferment on any such loan to be a troubled debt restructuring. In estimating expected credit losses on Farm & Ranch loans held for investment, Farmer Mac does consider payment deferments along with other available credit and economic information that pertains to that portfolio.

Probable Incurred Credit Loss (prior to January 1, 2020)

Prior to January 1, 2020, Farmer Mac maintained an allowance for losses to cover estimated probable losses incurred as of the balance sheet date on loans held ("allowance for loan losses") and loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities ("reserve for losses") based on available information. Disaggregation by: commodity type, portfolio, and risk rating; was performed, where appropriate, in analyzing the need for an allowance for losses.

General Allowance for Loss, for Probable Incurred Credit Losses

Prior to January 1, 2020, Farmer Mac's methodology to determine its allowance for losses incorporated Farmer Mac's automated loan classification system. That system scored loans based on criteria such as historical repayment performance, indicators of current financial condition, loan seasoning, loan size and loan-to-value ratio. The previous allowance methodology captured the migration of loan scores across concurrent and overlapping 3-year time horizons and calculated loss rates separately within each loan classification for (1) loans underlying LTSPCs and (2) loans held and loans underlying Farm & Ranch Guaranteed Securities. The calculated loss rates were applied to the current classification distribution of unimpaired loans in Farmer Mac's portfolio to estimate inherent losses, under the assumption that the historical credit losses and trends used to calculate loss rates would continue in the future.

Management evaluated those assumptions through considering many relevant factors, including:

- economic conditions;
- geographic and agricultural commodity/product concentrations in the portfolio;
- the credit profile of the portfolio;
- 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.

Prior to January 1, 2020, Management believed that its use of that methodology produced a reasonable estimate of probable losses incurred as of the balance sheet date, for all loans held in the Farm & Ranch portfolio and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs.

Prior to January 1, 2020, Farmer Mac separately evaluated the Rural Utilities loans it owned to determine if there were any probable losses inherent in those assets.

Specific Allowance for Impaired Loans

Prior to January 1, 2020, Farmer Mac analyzed individual loans for impairment. Those individual loans included loans 90 days or more past due, in foreclosure, restructured, in bankruptcy and certain performing loans that had previously been delinquent or were secured by real estate that produced agricultural commodities or products then under stress.

(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 awards. The following schedule reconciles basic and diluted EPS for the years ended December 31, 2020, 2019 and 2018:

Table 2.1

	For the Years Ended December 31,								
	2020			2019			2018		
	Net Income	Weighted- Average Shares	\$ per Share	Net Income	Weighted- Average Shares	\$ per Share	Net Income	Weighted- Average Shares	\$ per Share
	<i>(in thousands, except per share amounts)</i>								
Basic EPS									
Net income attributable to common stockholders	\$ 89,176	10,728	\$ 8.31	\$ 93,650	10,696	\$ 8.76	\$ 94,898	10,654	\$ 8.91
Effect of dilutive securities⁽¹⁾									
SARs and restricted stock	—	58	(0.04)	—	82	(0.07)	—	92	(0.08)
Diluted EPS	\$ 89,176	10,786	\$ 8.27	\$ 93,650	10,778	\$ 8.69	\$ 94,898	10,746	\$ 8.83

⁽¹⁾ For the years ended December 31, 2020, 2019, and 2018, SARs and restricted stock of 74,336, 43,374, and 15,812, 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, 2020, 2019, and 2018, contingent shares of unvested restricted stock of 12,680, 10,349, and 13,138, respectively, were outstanding but not included in the computation of diluted earnings per share of common stock because performance conditions had not yet been met.

(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 in effect when they arise. 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 \$4.1 million, \$2.3 million, and \$2.5 million of compensation expense related to stock options, SARs, and non-vested restricted stock awards for 2020, 2019, and 2018, 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, 2020, 2019, and 2018:

Table 2.2

	Available-for-Sale Securities	Held-to-Maturity Securities	Cash Flow Hedges	Total
	<i>(in thousands)</i>			
Balance as of January 1, 2018	\$ (1,676)	\$ 48,236	\$ 4,552	\$ 51,112
Other comprehensive (loss)/income before reclassifications	(19,151)	—	2,571	(16,580)
Amounts reclassified from AOCI	(4,533)	(4,793)	(250)	(9,576)
Net comprehensive (loss)/income	(23,684)	(4,793)	2,321	(26,156)
Balance as of December 31, 2018	\$ (25,360)	\$ 43,443	\$ 6,873	\$ 24,956
Other comprehensive loss before reclassifications	(14,976)	—	(11,561)	(26,537)
Amounts reclassified from AOCI	(3,061)	(10,598)	(921)	(14,580)
Net comprehensive loss	(18,037)	(10,598)	(12,482)	(41,117)
Balance as of December 31, 2019	\$ (43,397)	\$ 32,845	\$ (5,609)	\$ (16,161)
Other comprehensive income/(loss) before reclassifications	32,739	—	(21,606)	11,133
Amounts reclassified from AOCI	(3,279)	(10,016)	4,400	(8,895)
Net comprehensive income/(loss)	29,460	(10,016)	(17,206)	2,238
Balance as of December 31, 2020	<u>\$ (13,937)</u>	<u>\$ 22,829</u>	<u>\$ (22,815)</u>	<u>\$ (13,923)</u>

The following table presents other comprehensive income activity, the impact on net income of amounts reclassified from each component of AOCI, and the related tax impact for the years ended December 31, 2020, 2019, and 2018:

Table 2.3

	For the Years Ended December 31,								
	2020			2019			2018		
	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax	Before Tax	Provision (Benefit)	After Tax
	<i>(in thousands)</i>								
Other comprehensive income:									
Available-for-sale-securities:									
Unrealized holding gains/(losses) on available-for-sale securities	\$ 41,442	\$ 8,703	\$ 32,739	\$ (18,958)	\$ (3,982)	\$ (14,976)	\$ (24,241)	\$ (5,090)	\$ (19,151)
Less reclassification adjustments included in:									
Net interest income ⁽¹⁾	(3,895)	(818)	(3,077)	(3,834)	(805)	(3,029)	(5,784)	(1,215)	(4,569)
Gains on sale of available-for-sale investment securities ⁽²⁾	—	—	—	236	50	186	—	—	—
Other income ⁽²⁾	(256)	(54)	(202)	(275)	(57)	(218)	45	9	36
Total	\$ 37,291	\$ 7,831	\$ 29,460	\$ (22,831)	\$ (4,794)	\$ (18,037)	\$ (29,980)	\$ (6,296)	\$ (23,684)
Held-to-maturity securities:									
Less reclassification adjustments included in:									
Net interest income ⁽³⁾	(12,677)	(2,661)	(10,016)	(13,415)	(2,817)	(10,598)	(6,067)	(1,274)	(4,793)
Total	\$ (12,677)	\$ (2,661)	\$ (10,016)	\$ (13,415)	\$ (2,817)	\$ (10,598)	\$ (6,067)	\$ (1,274)	\$ (4,793)
Cash flow hedges									
Unrealized (losses)/gains on cash flow hedges	\$ (27,350)	\$ (5,744)	\$ (21,606)	\$ (14,635)	\$ (3,074)	\$ (11,561)	\$ 3,254	\$ 683	\$ 2,571
Less reclassification adjustments included in:									
Net interest income ⁽⁴⁾	5,570	1,170	4,400	(1,166)	(245)	(921)	(316)	(66)	(250)
Total	\$ (21,780)	\$ (4,574)	\$ (17,206)	\$ (15,801)	\$ (3,319)	\$ (12,482)	\$ 2,938	\$ 617	\$ 2,321
Other comprehensive income/(loss)	\$ 2,834	\$ 596	\$ 2,238	\$ (52,047)	\$ (10,930)	\$ (41,117)	\$ (33,109)	\$ (6,953)	\$ (26,156)

- (1) Relates to the amortization of unrealized gains on hedged items prior to the application of fair value hedge accounting.
- (2) Represents amortization of deferred gains related to certain available-for-sale USDA Securities and Farmer Mac Guaranteed USDA Securities.
- (3) Relates to the amortization of unrealized gains or losses prior to the reclassification of these securities from available-for-sale to held-to-maturity. The amortization of unrealized gains or losses reported in AOCI for held-to-maturity securities will be offset by the amortization of the premium or discount created from the transfer into held-to-maturity securities, which occurred at fair value. These unrealized gains or losses will be recorded over the remaining life of the security with no impact on future net income.
- (4) Relates to the recognition of unrealized gains and losses on cash flow hedges recorded in AOCI.

(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 off-balance sheet obligations for Farmer Mac. Farmer Mac records, at the inception of an off-balance sheet 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 real estate mortgage and Rural Utilities 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 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. 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 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. Farmer Mac classifies these fair value measurements as Level 3 because there is limited market activity and therefore little or no price transparency. On a sample basis, Farmer Mac corroborates the fair value of its Farmer Mac Guaranteed Securities and USDA Securities by obtaining a secondary valuation from an independent third-party service.

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 the counterparty valuations. Farmer Mac internally values its derivative portfolio using a discounted cash flow valuation technique and obtains a secondary valuation for certain interest rate swaps to corroborate the counterparty valuations. Farmer Mac also regularly reviews the counterparty valuations as part of the collateral exchange process. Farmer Mac classifies these fair value measurements as Level 2.

Certain basis swaps are non-standard interest rate swap structures and are therefore internally modeled using significant assumptions and unobservable inputs, resulting in Level 3 classification. Farmer Mac uses a discounted cash flow valuation technique, using management's best estimate of certain key assumptions, which include prepayment speeds, forward yield curves, and discount rates commensurate with the risks involved.

See Note 13 for more information regarding 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. 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 Farm & Ranch and all Rural Utilities 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 Farm & Ranch 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 USDA Guarantees 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.

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

Table 2.4

	Consolidation of Variable Interest Entities			
	As of December 31, 2020			
	Farm & Ranch	USDA Guarantees	Corporate	Total
	<i>(in thousands)</i>			
On-Balance Sheet:				
Consolidated VIEs:				
Loans held for investment in consolidated trusts, at amortized cost	\$ 1,287,045	\$ —	\$ —	\$ 1,287,045
Debt securities of consolidated trusts held by third parties ⁽¹⁾	1,323,786	—	—	1,323,786
Unconsolidated VIEs:				
Farmer Mac Guaranteed Securities:				
Carrying value ⁽²⁾	—	34,537	—	34,537
Maximum exposure to loss ⁽³⁾	—	34,456	—	34,456
Investment securities:				
Carrying value ⁽⁴⁾	—	—	1,918,672	1,918,672
Maximum exposure to loss ⁽³⁾⁽⁴⁾	—	—	1,909,535	1,909,535
Off-Balance Sheet:				
Unconsolidated VIEs:				
Farmer Mac Guaranteed Securities:				
Maximum exposure to loss ⁽³⁾⁽⁵⁾	79,312	299,298	—	378,610

⁽¹⁾ Includes borrower remittances of \$36.7 million. The borrower remittances had not been passed through to third party investors as of December 31, 2020.

⁽²⁾ Includes \$0.1 million of unamortized premiums and discounts and fair value adjustments related to the USDA Guarantees line of business.

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

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

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

Consolidation of Variable Interest Entities

As of December 31, 2019

Farm & Ranch	USDA Guarantees	Corporate	Total
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(in thousands)

On-Balance Sheet:

Consolidated VIEs:

Loans held for investment in consolidated trusts, at amortized cost	\$ 1,600,917	\$ —	\$ —	\$ 1,600,917
Debt securities of consolidated trusts held by third parties ⁽¹⁾	1,616,504	—	—	1,616,504

Unconsolidated VIEs:

Farmer Mac Guaranteed Securities:

Carrying value ⁽²⁾	—	32,041	—	32,041
Maximum exposure to loss ⁽³⁾	—	31,887	—	31,887

Investment securities:

Carrying value ⁽⁴⁾	—	—	1,117,203	1,117,203
Maximum exposure to loss ⁽³⁾⁽⁴⁾	—	—	1,120,765	1,120,765

Off-Balance Sheet:

Unconsolidated VIEs:

Farmer Mac Guaranteed Securities:

Maximum exposure to loss ⁽³⁾⁽⁵⁾	107,322	389,216	—	496,538
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⁽¹⁾ Includes borrower remittances of \$15.6 million. The borrower remittances had not been passed through to third party investors as of December 31, 2019.

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

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

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

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

(p) New Accounting Standards

Recently Adopted Accounting Guidance

Standard	Description	Date of Adoption	Effect on Consolidated Financial Statements
ASU 2016-13 , Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments	This Update required entities to measure all expected credit losses for financial assets held at amortized cost at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts, as well as requiring entities to use forward-looking information to form their credit loss estimates.	January 1, 2020	In 2020 Farmer Mac adopted the new guidance. The cumulative-effect adjustment to retained earnings as of January 1, 2020 reflected application of the new guidance and did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows. For more information on the transition adjustment see Table 2.5 below.
ASU 2017-08 , Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities	The amendments in this Update shorten the amortization period for certain callable debt securities held at a premium by requiring the premium to be amortized to the earliest call date. There is no required accounting change for securities held at a discount in this Update.	January 1, 2020	The adoption of this Update did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2018-13 , Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement	The amendments in this Update modify the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurements, including the consideration of costs and benefits. Certain disclosure requirements were either removed, modified, or added.	January 1, 2020	The adoption of this Update did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows.
ASU 2020-04 and 2021-01 , Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting	The amendments in this Update provide optional guidance for a limited period of time to ease the potential burden in accounting for reference rate reform on financial reporting. They provide optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met.	January 1, 2020	Farmer Mac adopted optional expedients specific to discounting transition on a retrospective basis, and as a result of this election, the discounting transition did not have a material effect on Farmer Mac's financial position, results of operations, or cash flows.

The following table presents the impact of adopting CECL on January 1, 2020 on our allowance and retained earnings:

Table 2.5

	December 31, 2019	Transition Adjustment	January 1, 2020
	<i>(in thousands)</i>		
Allowance:			
Farm & Ranch:			
Loans	\$ 10,454	\$ (3,909)	\$ 6,545
Long-term standby purchase commitments and guarantees	2,164	(148)	2,016
Rural Utilities:			
Loans	—	5,378	5,378
Long-term standby purchase commitments	—	1,011	1,011
Farmer Mac Guaranteed Securities:			
AgVantage	—	315	315
Investment Securities	—	9	9
Total Allowance	\$ 12,618	\$ 2,656	\$ 15,274
Retained Earnings	\$ 457,047	\$ (2,099)	\$ 454,948

(q) Reclassifications

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

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 Farm & Ranch 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 2020, 2019, and 2018:

Table 3.1

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Unpaid Principal Balance:			
Purchases:			
Loans	\$ 177,143	\$ 129,040	\$ 114,719
USDA Securities	10,764	8,875	19,120
Sales of Farmer Mac Guaranteed Securities	41,247	163,134	68,721

The purchases of loans from Zions under the Farm & Ranch line of business represented approximately 7.1%, 9.5%, and 11.9% of Farm & Ranch loan purchases for the years ended December 31, 2020, 2019, and 2018, respectively, and 6.2%, 7.6% and 8.2%, respectively, of total new Farm & Ranch business volume. The purchases of USDA Securities from Zions under the USDA Guarantees line of business represented approximately 1.4%, 2.1%, and 4.2% of purchases in that line of business for the years ended December 31, 2020, 2019, and 2018, respectively. Outstanding Farm & Ranch loans, USDA Securities, and AgVantage securities purchased from Zions represented 4.1% and 4.5%, respectively, of Farmer Mac's outstanding business volume as of December 31, 2020 and 2019.

Zions retained servicing fees of \$11.8 million, \$12.2 million, and \$11.6 million in 2020, 2019, and 2018, 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 7.9% of Farmer Mac's Class A voting common stock and because a member of Farmer Mac's board of directors has an affiliation with CFC. The following transactions occurred between Farmer Mac and CFC during 2020, 2019, and 2018:

Table 3.2

	Farmer Mac Loan Purchases and Guarantees		
	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Unpaid Principal Balance:			
Loans	\$ 272,943	\$ 85,000	\$ 11,645
Off-balance sheet revolving line of credit	19,500	—	—
On-balance sheet AgVantage Securities	250,000	575,000	675,000
Off-balance sheet revolving floating rate AgVantage facility	—	—	300,000
Total purchases and guarantees	<u>\$ 542,443</u>	<u>\$ 660,000</u>	<u>\$ 986,645</u>

The transactions with CFC represented 36.7% of Farmer Mac's loan purchase volume under the Rural Utilities line of business for 2020, compared to 9.8% of Farmer Mac's loan purchase volume for 2019 and 100% for 2018. These transactions represented 19.2%, 25.5%, and 29.5% of AgVantage securities volume under the Institutional Credit line of business for 2020, 2019, and 2018, respectively, and represented 9.5%, 12.5%, and 19.1% of total purchases, guarantees, and LTSPCs for 2020, 2019, and 2018, respectively. Of Farmer Mac's total outstanding business volume as of December 31, 2020 and 2019, Rural Utilities loans, loans under LTSPCs, and AgVantage securities issued by CFC represented 19.2% and 21.2%, respectively.

Farmer Mac had interest receivable of \$5.3 million and \$9.2 million as of December 31, 2020 and 2019, respectively, and earned interest income of \$63.1 million, \$97.3 million, and \$76.8 million during 2020, 2019, and 2018, respectively, related to its AgVantage transactions with CFC.

As of both December 31, 2020 and 2019, Farmer Mac had \$0.1 million of commitment fees receivable from CFC and earned commitment fees of \$1.3 million, \$1.7 million, and \$1.9 million, respectively for 2020, 2019, and 2018.

CFC retained servicing fees of \$3.3 million, \$3.2 million and \$3.6 million in 2020, 2019, and 2018, 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 and because a member of Farmer Mac's board of directors had an affiliation with CoBank through the end of 2019.

Farmer Mac purchased \$416.8 million and \$776.4 million of loans and participations from CoBank, under the Rural Utilities line of business in 2020 and 2019, respectively. The transactions with CoBank represented 56.0% and 89.1% of Farmer Mac's loan purchase transactions under the Rural Utilities line of business for 2020 and 2019, respectively. During 2018, Farmer Mac did not do any business with CoBank through any of its lines of business.

CoBank retained servicing fees of \$2.3 million and \$1.2 million in 2020 and 2019, respectively, for its work as a Farmer Mac central servicer. During 2018, CoBank was not 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 \$32.5 million, \$26.7 million, and \$26.6 million of LTSPC transactions in 2020, 2019, and 2018, respectively, and the aggregate balance of LTSPCs outstanding as of December 31, 2020 and 2019 was \$331.2 million and \$332.4 million, respectively. In each of 2020, 2019, and 2018, Farmer Mac received \$1.2 million in commitment fees from AgFirst, and had \$0.1 million of commitment fees receivable as of both December 31, 2020 and 2019.

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, 2020 and 2019, the outstanding balance of those securities owned by AgFirst was \$5.5 million and \$7.0 million, respectively. Farmer Mac received guarantee fees of \$25,000, \$29,000, and \$33,000 in 2020, 2019, and 2018, 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 \$1.2 million, \$1.1 million, and \$1.0 million in 2020, 2019, and 2018, respectively. The aggregate amount of LTSPCs outstanding with Farm Credit Bank of Texas as of December 31, 2020 and 2019 was \$304.9 million and \$270.3 million, respectively. In 2020, 2019, and 2018, Farm Credit Bank of Texas retained \$0.1 million, \$0.1 million, and \$0.2 million, respectively, in servicing fees for its work as a Farmer Mac central servicer.

Other Related Party Transactions:

Farmer Mac considers Bath State Bank and Farm Credit of Florida related parties because a member of Farmer Mac's board of directors is affiliated with those entities. Farmer Mac purchased \$9.2 million, \$4.0 million, and \$2.0 million in USDA Securities from Bath State Bank in 2020, 2019, and 2018, respectively.

Farmer Mac purchased \$0.2 million of Farm & Ranch loans from Farm Credit of Florida in 2020. Farmer Mac did not purchase any loans from Farm Credit of Florida in 2019 or 2018.

4. INVESTMENT SECURITIES

The following tables set forth information about Farmer Mac's investment securities as of December 31, 2020 and December 31, 2019:

Table 4.1

	As of December 31, 2020						
	Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	Unrealized Gains	Unrealized Losses	Fair Value
	<i>(in thousands)</i>						
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,700	\$ —	\$ 19,700	\$ (36)	\$ —	\$ (493)	\$ 19,171
Floating rate asset-backed securities	6,232	—	6,232	—	—	(1)	6,231
Floating rate Government/GSE guaranteed mortgage-backed securities	2,350,963	(44)	2,350,919	—	12,150	(3,043)	2,360,026
Fixed rate GSE guaranteed mortgage-backed securities	279	—	279	—	34	—	313
Fixed rate U.S. Treasuries	1,449,408	17,128	1,466,536	—	1,458	(43)	1,467,951
Total available-for-sale	3,826,582	17,084	3,843,666	(36)	13,642	(3,580)	3,853,692
Held-to-maturity:							
Floating rate Government/GSE guaranteed mortgage-backed securities ⁽³⁾	45,032	—	45,032	—	1,201	—	46,233
Total investment securities	\$ 3,871,614	\$ 17,084	\$ 3,888,698	\$ (36)	\$ 14,843	\$ (3,580)	\$ 3,899,925

⁽¹⁾ Amounts presented exclude \$9.0 million of accrued interest receivable on investment securities as of December 31, 2020.

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

⁽³⁾ The held-to-maturity investment securities had a weighted average yield of 1.5% as of December 31, 2020.

As of December 31, 2019						
Amount Outstanding	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	
<i>(in thousands)</i>						
Available-for-sale:						
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,700	\$ —	\$ 19,700	\$ —	\$ (788)	\$ 18,912
Floating rate asset-backed securities	11,092	—	11,092	—	(7)	11,085
Floating rate Government/GSE guaranteed mortgage-backed securities	1,633,731	1,174	1,634,905	2,414	(4,736)	1,632,583
Fixed rate GSE guaranteed mortgage-backed securities	315	—	315	25	—	340
Fixed rate U.S. Treasuries	1,295,210	208	1,295,418	1,520	(15)	1,296,923
Total available-for-sale	2,960,048	1,382	2,961,430	3,959	(5,546)	2,959,843
Held-to-maturity:						
Floating rate Government/GSE guaranteed mortgage-backed securities ⁽¹⁾	45,032	—	45,032	953	—	45,985
Total investment securities	\$ 3,005,080	\$ 1,382	\$ 3,006,462	\$ 4,912	\$ (5,546)	\$ 3,005,828

⁽¹⁾ The held-to-maturity investment securities had a weighted average yield of 3.3% as of December 31, 2019.

Farmer Mac did not sell any securities from its available-for-sale investment portfolio during the years ended December 31, 2020 or 2018. During the year ended December 31, 2019, Farmer Mac received proceeds of \$12.4 million from the sale of securities from its available-for-sale investment portfolio, resulting in gross realized losses of \$0.2 million.

As of December 31, 2020 and December 31, 2019, unrealized losses on available-for-sale investment securities were as follows:

Table 4.2

As of December 31, 2020				
Available-for-Sale Securities				
	Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
<i>(dollars in thousands)</i>				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,171	\$ (493)
Floating rate asset-backed securities	—	—	6,231	(1)
Floating rate Government/GSE guaranteed mortgage-backed securities	172,842	(593)	324,423	(2,450)
Fixed rate U.S. Treasuries	364,320	(43)	—	—
Total	\$ 537,162	\$ (636)	\$ 349,825	\$ (2,944)
Number of securities in loss position			27	62

As of December 31, 2019				
Available-for-Sale Securities				
Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months		
Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	
<i>(dollars in thousands)</i>				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 18,912	\$ (788)
Floating rate asset-backed securities	2,583	(1)	8,502	(6)
Floating rate Government/GSE guaranteed mortgage-backed securities	841,993	(2,244)	436,621	(2,492)
Fixed rate U.S. Treasuries	35,107	(15)	—	—
Total	<u>\$ 879,683</u>	<u>\$ (2,260)</u>	<u>\$ 464,035</u>	<u>\$ (3,286)</u>
Number of securities in loss position		57		62

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, 2020 and December 31, 2019, 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, 2020 and December 31, 2019, all of the investment securities in an unrealized loss position either were backed by the full faith and credit of the U.S. government or had credit ratings of at least "AA+."

Securities in unrealized loss positions for 12 months or longer have a fair value as of December 31, 2020 that is, on average, approximately 99.2% of their amortized cost basis. Farmer Mac believes that all of these unrealized losses are recoverable within a reasonable period of time by way of maturity or changes in credit spreads.

The amortized cost, fair value, and weighted-average yield of available-for-sale investment securities by remaining contractual maturity as of December 31, 2020 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, 2020			
Available-for-Sale Securities			
	Amortized Cost	Fair Value	Weighted-Average Yield
<i>(dollars in thousands)</i>			
Due within one year	\$ 1,192,119	\$ 1,193,525	1.97%
Due after one year through five years	622,016	622,930	1.30%
Due after five years through ten years	1,157,692	1,165,188	0.64%
Due after ten years	871,839	872,049	0.68%
Total	<u>\$ 3,843,666</u>	<u>\$ 3,853,692</u>	1.17%

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, 2020 and December 31, 2019:

Table 5.1

As of December 31, 2020							
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost ⁽¹⁾	Allowance for losses ⁽²⁾	Unrealized Gains	Unrealized Losses	Fair Value
<i>(in thousands)</i>							
Held-to-maturity:							
AgVantage	\$ 1,141,430	\$ (55)	\$ 1,141,375	\$ (120)	\$ 23,986	\$ (61)	\$ 1,165,180
Farmer Mac Guaranteed USDA Securities	34,456	81	34,537	—	1,273	—	35,810
Total Farmer Mac Guaranteed Securities	1,175,886	26	1,175,912	(120)	25,259	(61)	1,200,990
USDA Securities	2,446,550	27,076	2,473,626	—	157,748	(560)	2,630,814
Total held-to-maturity	<u>\$ 3,622,436</u>	<u>\$ 27,102</u>	<u>\$ 3,649,538</u>	<u>\$ (120)</u>	<u>\$ 183,007</u>	<u>\$ (621)</u>	<u>\$ 3,831,804</u>
Available-for-sale:							
AgVantage	<u>\$ 6,593,518</u>	<u>\$ 1,474</u>	<u>\$ 6,594,992</u>	<u>\$ (310)</u>	<u>\$ 368,257</u>	<u>\$ (15,238)</u>	<u>\$ 6,947,701</u>
Trading:							
USDA Securities ⁽³⁾	<u>\$ 6,413</u>	<u>\$ 198</u>	<u>\$ 6,611</u>	<u>\$ —</u>	<u>\$ 84</u>	<u>\$ —</u>	<u>\$ 6,695</u>

⁽¹⁾ Amounts presented exclude \$32.3 million, \$44.7 million, and \$0.2 million of accrued interest receivable on available-for-sale, held-to-maturity, and trading securities, respectively, as of December 31, 2020.

⁽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⁾ The trading USDA securities had a weighted average yield of 5.05% as of December 31, 2020.

As of December 31, 2019							
	Unpaid Principal Balance	Unamortized Premium/ (Discount)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	
<i>(in thousands)</i>							
Held-to-maturity:							
AgVantage	\$ 1,415,584	\$ (174)	\$ 1,415,410	\$ 15,300	\$ (164)	\$ 1,430,546	
Farmer Mac Guaranteed USDA Securities	31,887	154	32,041	839	—	32,880	
Total Farmer Mac Guaranteed Securities	1,447,471	(20)	1,447,451	16,139	(164)	1,463,426	
USDA Securities	2,190,671	41,489	2,232,160	54,356	(758)	2,285,758	
Total held-to-maturity	<u>\$ 3,638,142</u>	<u>\$ 41,469</u>	<u>\$ 3,679,611</u>	<u>\$ 70,495</u>	<u>\$ (922)</u>	<u>\$ 3,749,184</u>	
Available-for-sale:							
AgVantage	<u>\$ 7,017,095</u>	<u>\$ (124)</u>	<u>\$ 7,016,971</u>	<u>\$ 161,316</u>	<u>\$ (35,262)</u>	<u>\$ 7,143,025</u>	
Trading:							
USDA Securities ⁽¹⁾	<u>\$ 8,400</u>	<u>\$ 479</u>	<u>\$ 8,879</u>	<u>\$ 61</u>	<u>\$ (27)</u>	<u>\$ 8,913</u>	

⁽¹⁾ The trading USDA securities had a weighted average yield of 5.20% as of December 31, 2019.

As of December 31, 2020 and December 31, 2019, 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, 2020			
	Held-to-Maturity and Available-for-Sale Securities			
	Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
	<i>(in thousands)</i>			
Held-to-maturity:				
AgVantage	\$ 49,939	\$ (61)	\$ —	\$ —
Farmer Mac Guaranteed USDA Securities	—	—	—	—
USDA Securities	—	—	21,061	(560)
Total held-to-maturity	<u>\$ 49,939</u>	<u>\$ (61)</u>	<u>\$ 21,061</u>	<u>\$ (560)</u>
Available-for-sale:				
AgVantage	<u>\$ 133,703</u>	<u>\$ (231)</u>	<u>\$ 981,757</u>	<u>\$ (15,007)</u>
	As of December 31, 2019			
	Held-to-Maturity and Available-for-Sale Securities			
	Unrealized loss position for less than 12 months		Unrealized loss position for more than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
	<i>(in thousands)</i>			
Held-to-maturity:				
AgVantage	\$ —	\$ —	\$ 301,836	\$ (164)
USDA Securities	—	—	27,089	(758)
Total held-to-maturity	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 328,925</u>	<u>\$ (922)</u>
Available-for-sale:				
AgVantage	<u>\$ 225,239</u>	<u>\$ (2,203)</u>	<u>\$ 1,394,802</u>	<u>\$ (33,059)</u>

The unrealized losses presented above are principally due to changes in interest rates from the date of acquisition to December 31, 2020 and December 31, 2019, as applicable. The unrealized losses on the held-to-maturity USDA Securities as of both December 31, 2020 and December 31, 2019 reflect their increased cost basis resulting from their transfer to held-to-maturity as of October 1, 2016.

The credit exposure related to Farmer Mac's USDA Guarantees line of business is covered by the full faith and credit guarantee of the United States of America. As of December 31, 2020, Farmer Mac had executed COVID-19 payment deferrals on loans with unpaid principal balances of \$92.9 million underlying USDA Securities.

The unrealized losses from AgVantage securities were on 11 and 17 available-for-sale securities as of December 31, 2020 and December 31, 2019, respectively. There were 2 and 4 held-to-maturity AgVantage securities with an unrealized loss as of December 31, 2020 and December 31, 2019,

respectively. As of December 31, 2020 and December 31, 2019, 7 and 13 available-for-sale AgVantage securities, respectively, had been in a loss position for more than 12 months.

During the years ended December 31, 2020, 2019, and 2018, Farmer Mac had no sales of Farmer Mac Guaranteed Securities or USDA 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, 2020 are set forth below. The balances presented are based on their final maturities, although the actual maturities may differ due to prepayments of the underlying assets.

Table 5.3

	As of December 31, 2020		
	Available-for-Sale Securities		
	Amortized Cost ⁽¹⁾	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 1,212,051	\$ 1,216,431	1.52 %
Due after one year through five years	2,861,186	2,971,603	2.41 %
Due after five years through ten years	1,016,527	1,092,170	2.36 %
Due after ten years	1,505,228	1,667,497	2.55 %
Total	<u>\$ 6,594,992</u>	<u>\$ 6,947,701</u>	2.27 %

⁽¹⁾ Amounts presented exclude \$32.3 million of accrued interest receivable.

	As of December 31, 2020		
	Held-to-Maturity Securities		
	Amortized Cost ⁽¹⁾	Fair Value	Weighted-Average Yield
	<i>(dollars in thousands)</i>		
Due within one year	\$ 526,374	\$ 529,401	2.79 %
Due after one year through five years	683,135	706,287	3.12 %
Due after five years through ten years	255,180	269,945	2.89 %
Due after ten years	2,184,849	2,326,171	3.19 %
Total	<u>\$ 3,649,538</u>	<u>\$ 3,831,804</u>	3.07 %

⁽¹⁾ Amounts presented exclude \$44.7 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., LIBOR). 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 forward sale contracts on the debt of other GSEs and futures contracts involving U.S. Treasury securities. Farmer Mac uses forward sale contracts on GSE securities to reduce its interest rate exposure to changes in both U.S. Treasury rates and spreads on Farmer Mac debt. 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 as of December 31, 2020 and December 31, 2019:

Table 6.1

	As of December 31, 2020						
	Notional Amount	Fair Value		Weighted-Average Pay Rate	Weighted-Average Receive Rate	Weighted-Average Forward Price	Weighted-Average Remaining Term (in years)
		Asset	(Liability)				
<i>(dollars in thousands)</i>							
Fair value hedges:							
Interest rate swaps:							
Pay fixed non-callable	\$ 5,463,303	\$ 10,157	\$ (2,585)	2.26%	0.21%		11.95
Receive fixed non-callable	2,611,029	2	(8,755)	0.32%	1.61%		2.10
Receive fixed callable	343,500	3,108	(4)	0.16%	1.78%		3.16
Cash flow hedges:							
Interest rate swaps:							
Pay fixed non-callable	472,000	2,584	(8,771)	2.04%	0.57%		6.04
No hedge designation:							
Interest rate swaps:							
Pay fixed non-callable	339,090	—	(9,675)	2.38%	0.19%		4.23
Receive fixed non-callable	2,359,220	—	—	0.16%	0.87%		1.07
Receive fixed callable	200,000	1	(12)	0.13%	0.15%		0.72
Basis swaps	3,628,911	1,617	(43)	0.18%	0.23%		2.03
Treasury futures	30,500	—	(82)			137.81	
Credit valuation adjustment		(1)	35				
Total financial derivatives	<u>\$ 15,447,553</u>	<u>\$ 17,468</u>	<u>\$ (29,892)</u>				
Collateral (held)/pledged		(1,345)	212,263				
Net amount		<u>\$ 16,123</u>	<u>\$ 182,371</u>				

As of December 31, 2019

	Fair Value		Weighted-Average Pay Rate	Weighted-Average Receive Rate	Weighted-Average Forward Price	Weighted-Average Remaining Term (in years)
	Notional Amount	Asset				
<i>(dollars in thousands)</i>						
Fair value hedges:						
Interest rate swaps:						
Pay fixed non-callable	\$ 4,955,686	\$ 7,163	\$ (3,281)	2.47%	1.93%	11.26
Receive fixed non-callable	1,413,200	76	(5,329)	1.88%	2.13%	1.25
Receive fixed callable	524,000	476	(772)	1.52%	1.91%	2.83
Cash flow hedges:						
Interest rate swaps:						
Pay fixed non-callable	428,000	1,882	(1,514)	2.36%	2.12%	5.43
No hedge designation:						
Interest rate swaps:						
Pay fixed non-callable	342,745	7	(14,046)	3.55%	2.00%	5.51
Receive fixed non-callable	3,124,148	49	(1,637)	1.88%	2.06%	1.66
Receive fixed callable	525,000	79	(80)	1.64%	1.68%	0.83
Basis swaps	2,670,000	787	(395)	1.86%	1.76%	0.90
Treasury futures	39,400	—	(51)		128.29	
Credit valuation adjustment		—	63			
Total financial derivatives	<u>\$ 14,022,179</u>	<u>\$ 10,519</u>	<u>\$ (27,042)</u>			
Collateral (held)/pledged		<u>(2,685)</u>	<u>132,129</u>			
Net amount		<u>\$ 7,834</u>	<u>\$ 105,087</u>			

As of December 31, 2020, Farmer Mac expects to reclassify \$5.3 million after tax from accumulated other comprehensive income to earnings over the next twelve months. This amount could differ from amounts actually recognized due to changes in interest rates, hedge de-designations, and the addition of other hedges after December 31, 2020. During the years ended December 31, 2020 and 2019, 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 table summarizes the net income/(expense) recognized in the consolidated statements of operations related to derivatives for the years ended December 31, 2020, 2019, and 2018:

Table 6.2

	For the Year Ended December 31, 2020				
	Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives				
	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Losses on financial derivatives	Total
	<i>(in thousands)</i>				
Total amounts presented in the consolidated statement of operations	\$ 227,691	\$ 233,699	\$ (312,946)	\$ (246)	\$ 148,198
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	(60,056)	(19,135)	26,386	—	(52,805)
Recognized on hedged items	126,170	40,793	(51,230)	—	115,733
Discount amortization recognized on hedged items	—	—	(745)	—	(745)
Income/(expense) related to interest settlements on fair value hedging relationships	<u>\$ 66,114</u>	<u>\$ 21,658</u>	<u>\$ (25,589)</u>	<u>\$ —</u>	<u>\$ 62,183</u>
(Losses)/gains on fair value hedging relationships:					
Recognized on derivatives	\$ (206,281)	\$ (76,565)	\$ 43,332	\$ —	\$ (239,514)
Recognized on hedged items	202,624	73,426	(45,720)	—	230,330
(Losses)/gains on fair value hedging relationships	<u>\$ (3,657)</u>	<u>\$ (3,139)</u>	<u>\$ (2,388)</u>	<u>\$ —</u>	<u>\$ (9,184)</u>
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ (5,570)	\$ —	\$ (5,570)
Recognized on hedged items	—	—	(4,553)	—	(4,553)
Discount amortization recognized on hedged items	—	—	(13)	—	(13)
Expense recognized on cash flow hedges	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (10,136)</u>	<u>\$ —</u>	<u>\$ (10,136)</u>
(Losses)/gains on financial derivatives not designated in hedging relationships:					
Losses on interest rate swaps	\$ —	\$ —	\$ —	\$ (4,204)	\$ (4,204)
Interest expense on interest rate swaps	—	—	—	5,808	5,808
Treasury futures	—	—	—	(1,850)	(1,850)
(Losses)/gains on financial derivatives not designated in hedge relationships	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (246)</u>	<u>\$ (246)</u>

For The Year Ended December 31, 2019

Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives

	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	Gains/(losses) on financial derivatives	Total
	<i>(in thousands)</i>				
Total amounts presented in the consolidated statement of operations:	\$ 333,896	\$ 229,675	\$ (471,958)	\$ 5,282	\$ 96,895
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	(2,177)	(2,053)	(6,227)	—	(10,457)
Recognized on hedged items	118,609	26,352	(45,309)	—	99,652
Discount amortization recognized on hedged items	—	—	(631)	—	(631)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 116,432	\$ 24,299	\$ (52,167)	\$ —	\$ 88,564
(Losses)/gains on fair value hedging relationships:					
Recognized on derivatives	\$ (184,478)	\$ (50,141)	\$ 18,401	\$ —	\$ (216,218)
Recognized on hedged items	181,144	43,194	(16,027)	—	208,311
(Losses)/gains on fair value hedging relationships	\$ (3,334)	\$ (6,947)	\$ 2,374	\$ —	\$ (7,907)
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ 1,166	\$ —	\$ 1,166
Recognized on hedged items	—	—	(10,569)	—	(10,569)
Discount amortization recognized on hedged items	—	—	(4)	—	(4)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (9,407)	\$ —	\$ (9,407)
Gains on financial derivatives not designated in hedge relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 10,321	\$ 10,321
Interest expense on interest rate swaps	—	—	—	(4,213)	(4,213)
Treasury futures	—	—	—	(826)	(826)
Gains on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ 5,282	\$ 5,282

For The Year Ended December, 2018

Net Income/(Expense) Recognized in Consolidated Statement of Operations on Derivatives					
	Net Interest Income			Non-Interest Income	
	Interest Income Farmer Mac Guaranteed Securities and USDA Securities	Interest Income Loans	Total Interest Expense	(Losses)/gains on financial derivatives	Total
	<i>(in thousands)</i>				
Total amounts presented in the consolidated statement of operations:	\$ 290,953	\$ 198,152	\$ (369,848)	\$ (3,687)	\$ 115,570
Income/(expense) related to interest settlements on fair value hedging relationships:					
Recognized on derivatives	1,861	(630)	(7,995)	—	(6,764)
Recognized on hedged items	65,238	6,284	(36,837)	—	34,685
Discount amortization recognized on hedged items	—	—	(668)	—	(668)
Income/(expense) related to interest settlements on fair value hedging relationships	\$ 67,099	\$ 5,654	\$ (45,500)	\$ —	\$ 27,253
Gains/(losses) on fair value hedging relationships:					
Recognized on derivatives	\$ (20,279)	\$ 5,031	\$ 835	\$ —	\$ (14,413)
Recognized on hedged items	21,460	(5,243)	3,137	—	19,354
Gains/(losses) on fair value hedging relationships	\$ 1,181	\$ (212)	\$ 3,972	\$ —	\$ 4,941
Expense related to interest settlements on cash flow hedging relationships:					
Interest settlements reclassified from AOCI into net income on derivatives	\$ —	\$ —	\$ 316	\$ —	\$ 316
Recognized on hedged items	—	—	(9,182)	—	(9,182)
Discount amortization recognized on hedged items	—	—	(6)	—	(6)
Expense recognized on cash flow hedges	\$ —	\$ —	\$ (8,872)	\$ —	\$ (8,872)
Losses on financial derivatives not designated in hedge relationships:					
Gains on interest rate swaps	\$ —	\$ —	\$ —	\$ 7,206	\$ 7,206
Interest expense on interest rate swaps	—	—	—	(10,920)	(10,920)
Treasury futures	—	—	—	27	27
Losses on financial derivatives not designated in hedge relationships	\$ —	\$ —	\$ —	\$ (3,687)	\$ (3,687)

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, 2020 and December 31, 2019:

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, 2020	December 31, 2019	December 31, 2020	December 31, 2019
	<i>(in thousands)</i>			
Farmer Mac Guaranteed Securities, Available-for-Sale, at fair value ⁽¹⁾	\$ 4,244,027	\$ 4,092,611	\$ 382,825	\$ 180,215
Loans held for investment, at amortized cost ⁽²⁾	1,692,609	1,050,335	111,333	37,907
Notes Payable ⁽³⁾	(3,006,140)	(2,761,052)	(53,240)	(7,433)

⁽¹⁾ Includes \$1.6 million of hedging adjustments on discontinued hedging relationships as of December 31, 2020.

⁽²⁾ Includes \$1.4 million of hedging adjustments on a discontinued hedging relationship as of December 31, 2020.

⁽³⁾ Carrying amount represents amortized cost.

The following table shows Farmer Mac's credit exposure to interest rate swap counterparties as of December 31, 2020 and December 31, 2019:

Table 6.4

	December 31, 2020			
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet	
	<i>(in thousands)</i>			
Assets:				
Derivatives				
Interest rate swap	\$ 112,287	\$ 111,761	\$	526
Liabilities:				
Derivatives				
Interest rate swap	\$ 620,236	\$ 595,867	\$	24,369

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

	December 31, 2019			
	Gross Amount Recognized ⁽¹⁾	Counterparty Netting	Net Amount Presented in the Consolidated Balance Sheet	
	<i>(in thousands)</i>			
Assets:				
Derivatives				
Interest rate swaps	\$ 56,139	\$ 53,771	\$	2,368
Liabilities:				
Derivatives				
Interest rate swaps	\$ 305,584	\$ 291,326	\$	14,258

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

As of December 31, 2020, Farmer Mac held \$1.3 million of cash and no investment securities as collateral for its derivatives in net asset positions, compared to \$2.7 million of cash and no investment securities as collateral for its derivatives in net asset positions as of December 31, 2019.

Farmer Mac posted \$11.2 million cash and \$201.1 million of investment securities as of December 31, 2020 and posted \$0.5 million cash and \$131.7 million investment securities as of December 31, 2019. 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, 2020 and December 31, 2019, 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, 2020 and December 31, 2019, 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 \$15.4 billion notional amount of interest rate swaps outstanding as of December 31, 2020, \$12.8 billion were cleared through the swap clearinghouse, the Chicago Mercantile Exchange ("CME"). Of Farmer Mac's \$14.0 billion notional amount of interest rate swaps outstanding as of December 31, 2019, \$11.0 billion were cleared through the CME. During 2020 and throughout 2019, Farmer Mac increased its use of non-cleared basis swaps as it began to prepare for the transition away from the use of LIBOR as a reference rate.

7. NOTES PAYABLE

Farmer Mac's borrowings consist of discount notes and medium-term notes, both of which are unsecured general obligations of Farmer Mac. Discount notes generally have original maturities of 1.0 year or less, whereas medium-term notes generally have maturities of 0.5 years to 15.0 years.

The following tables set forth information related to Farmer Mac's borrowings as of December 31, 2020 and December 31, 2019:

Table 7.1

	December 31, 2020			
	Outstanding as of December 31		Average Outstanding During the Year	
	Amount	Weighted-Average Rate	Amount	Weighted-Average Rate
<i>(dollars in thousands)</i>				
Due within one year:				
Discount notes	\$ 1,797,175	0.11 %	\$ 2,343,702	0.63 %
Medium-term notes	2,645,146	0.19 %	1,593,253	0.60 %
Current portion of medium-term notes	6,304,061	0.90 %		
Total due within one year	<u>\$ 10,746,382</u>	0.59 %		
Due after one year:				
Medium-term notes due in:				
Two years	\$ 3,004,203	1.00 %		
Three years	2,809,551	1.24 %		
Four years	927,119	1.67 %		
Five years	1,342,250	1.03 %		
Thereafter	2,966,172	1.92 %		
Total due after one year	<u>\$ 11,049,295</u>	1.37 %		
Total principal net of discounts	\$ 21,795,677	0.98 %		
Hedging adjustments	53,240			
Total	<u>\$ 21,848,917</u>			

December 31, 2019				
Outstanding as of December 31			Average Outstanding During the Year	
Amount	Weighted-Average Rate	Amount	Weighted-Average Rate	
<i>(dollars in thousands)</i>				
Due within one year:				
Discount notes	\$ 2,194,177	1.72 %	\$ 1,977,214	2.25 %
Medium-term notes	1,152,770	1.98 %	1,780,517	2.33 %
Current portion of medium-term notes	6,672,135	1.85 %		
Total due within one year	<u>\$ 10,019,082</u>	1.84 %		
Due after one year:				
Medium-term notes due in:				
Two years	\$ 3,696,699	2.04 %		
Three years	1,592,315	2.15 %		
Four years	1,202,817	2.27 %		
Five years	762,003	2.25 %		
Thereafter	1,818,299	2.89 %		
Total due after one year	<u>\$ 9,072,133</u>	2.28 %		
Total principal net of discounts	\$ 19,091,215	2.05 %		
Hedging adjustments	7,433			
Total	<u><u>\$ 19,098,648</u></u>			

The maximum amount of Farmer Mac's discount notes outstanding at any month end during each of the years ended December 31, 2020 and 2019 was \$2.6 billion and \$2.3 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 2021 as of December 31, 2020:

Table 7.2

Debt Callable in 2021 as of December 31, 2020, by Maturity

	Amount	Weighted-Average Rate
	<i>(dollars in thousands)</i>	
Maturity:		
2022	\$ 243,410	0.42 %
2023	592,529	0.97 %
2024	119,898	1.56 %
2025	306,683	1.08 %
Thereafter	670,657	1.51 %
Total	<u><u>\$ 1,933,177</u></u>	<u><u>1.15 %</u></u>

The following schedule summarizes the earliest interest rate reset date, or debt maturities, of total borrowings outstanding as of December 31, 2020, including callable and non-callable medium-term notes, assuming callable notes are redeemed at the initial call date:

Table 7.3

	Earliest Interest Rate Reset Date, or Debt Maturities, of Borrowings Outstanding	
	Amount	Weighted-Average Rate
<i>(dollars in thousands)</i>		
Debt with interest rate resets, or debt maturities in:		
2021	\$ 12,805,994	0.55 %
2022	2,123,372	1.34 %
2023	2,390,730	1.39 %
2024	884,138	1.74 %
2025	1,126,871	1.15 %
Thereafter	2,464,572	2.19 %
Total principal net of discounts	<u>\$ 21,795,677</u>	<u>0.98 %</u>

During the years ended December 31, 2020 and 2019, Farmer Mac called \$3.1 billion and \$1.5 billion of callable medium-term notes, respectively. The decrease in market interest rates throughout 2020 led to an increase in called medium-term notes compared to the prior year.

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, 2020, Farmer Mac had not used this borrowing authority.

Gains on Repurchase of Outstanding Debt

No outstanding debt repurchases were made in the years ended December 31, 2020, 2019, or 2018.

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. During the year ended December 31, 2020, Farmer Mac acquired \$59.2 million in loans held for sale, of which it sold \$15.0 million during the year, and reclassified \$44.2 million as loans held for investment. As of both December 31, 2020 and December 31, 2019, Farmer Mac had no loans held for sale.

The following table includes loans held for investment and displays the composition of the loan balances as of December 31, 2020 and December 31, 2019:

Table 8.1

	As of December 31, 2020 ⁽¹⁾			As of December 31, 2019 ⁽²⁾		
	Unsecuritized	In Consolidated Trusts	Total	Unsecuritized	In Consolidated Trusts	Total
	<i>(in thousands)</i>					
Farm & Ranch	\$ 4,889,393	\$ 1,287,045	\$ 6,176,438	\$ 3,675,640	\$ 1,600,917	\$ 5,276,557
Rural Utilities	2,260,412	—	2,260,412	1,671,293	—	1,671,293
Total unpaid principal balance ⁽³⁾	7,149,805	1,287,045	8,436,850	5,346,933	1,600,917	6,947,850
Unamortized premiums, discounts, fair value hedge basis adjustment, and other cost basis adjustments	112,128	—	112,128	44,044	—	44,044
Total loans	7,261,933	1,287,045	8,548,978	5,390,977	1,600,917	6,991,894
Allowance for losses	(12,943)	(889)	(13,832)	(8,853)	(1,601)	(10,454)
Total loans, net of allowance	<u>\$ 7,248,990</u>	<u>\$ 1,286,156</u>	<u>\$ 8,535,146</u>	<u>\$ 5,382,124</u>	<u>\$ 1,599,316</u>	<u>\$ 6,981,440</u>

⁽¹⁾ Allowance for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020.

⁽²⁾ Prior to the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020, Farmer Mac maintained an allowance for losses to cover estimated probable incurred losses on loans held.

⁽³⁾ 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, 2020 and December 31, 2019:

Table 8.2

	December 31, 2020 ⁽¹⁾	December 31, 2019 ⁽²⁾
	Allowance for Losses	Allowance for Losses
	<i>(in thousands)</i>	
Loans:		
Farm & Ranch	\$ 3,745	\$ 10,454
Rural Utilities	10,087	—
Total	<u>\$ 13,832</u>	<u>\$ 10,454</u>

⁽¹⁾ Allowance for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020.

⁽²⁾ Prior to the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020, Farmer Mac maintained an allowance for loan losses to cover estimated probable incurred losses on loans held.

The following is a summary of the changes in the allowance for losses for each year in the three-year period ended December 31, 2020:

Table 8.3

	Farm & Ranch	Rural Utilities
	Allowance for Losses	Allowance for Losses
	<i>(in thousands)</i>	
Balance as of December 31, 2017 ⁽¹⁾	\$ 6,796	\$ —
Provision for losses	238	—
Charge-offs	(17)	—
Balance as of December 31, 2018 ⁽¹⁾	\$ 7,017	\$ —
Provision for losses	3,504	—
Charge-offs	(67)	—
Balance as of December 31, 2019 ⁽¹⁾	\$ 10,454	\$ —
Cumulative effect adjustment from adoption of current expected credit loss standard	(3,909)	5,378
Adjusted Beginning Balance	6,545	5,378
(Release of)/provision for losses	2,959	4,709
Charge-offs	(5,759)	—
Balance as of December 31, 2020 ⁽²⁾⁽³⁾⁽⁴⁾	<u>\$ 3,745</u>	<u>\$ 10,087</u>

⁽¹⁾ Prior to the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020, Farmer Mac maintained an allowance for loan losses to cover estimated probable incurred losses on loans held.

⁽²⁾ Allowance for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," effective January 1, 2020.

⁽³⁾ Allowance for losses for Farm & Ranch includes no allowance for collateral dependent assets secured by agricultural real estate.

⁽⁴⁾ Allowance for losses for Rural Utilities includes no allowance for collateral dependent assets.

The cumulative transition adjustment decrease of \$3.9 million in the Farm & Ranch portfolio was primarily attributable to differences in the way that the two loss models measure the impact of low loan-to-value ratios in that portfolio. Under the previous accounting standard, Farmer Mac's estimated incurred loss model was based on historical weighted-average loss rates from realized losses within commodities and risk ratings. The historical weighted average loss rates were then applied to sub-portfolios, as disaggregated by commodity and risk rating, to calculate the general allowance. Under the CECL accounting standard, Farmer Mac's current expected credit losses are calculated individually based on the expected probability of default and the expected loss-given-default for each loan. The low loan-to-value ratios in the Farm & Ranch portfolio result in low individual losses-given-default. Thus, our expected credit losses as of January 1, 2020 were less than our estimate of incurred losses as of December 31, 2019.

The cumulative transition adjustment increase of \$5.4 million in the Rural Utilities portfolio was primarily attributable to the change from measuring incurred probable credit losses to measuring expected credit losses over the expected lives of these loans. Farmer Mac has never realized a credit loss in its Rural Utilities portfolio. Additionally, these loans have strong credit ratings and performance, which supported Farmer Mac's estimate of no incurred credit losses under the previous accounting standard. Upon the adoption of CECL, Farmer Mac is now required to measure its expected credit losses for the entire expected life of all financial instruments, including its Rural Utilities loans. To estimate expected credit losses on these loans, Farmer Mac relies upon industry data from ratings agencies and publicly available information as disclosed in the securities filings of other major lenders who serve the utilities industry. Under CECL, Farmer Mac's loss allowance model for these loans is primarily impacted by the long-term maturities of the loans and their low probability of prepayment. In addition, the highly-specialized nature of power generation and transmission and other rural infrastructure facilities results in significant expected

losses given default even though the probability of default is low. Thus, the long-term expected lives of these loans combined with high losses given default result in an estimate of expected losses although we have never realized a credit loss in this portfolio.

The provision to the allowance for Rural Utilities loan losses of \$4.7 million recorded during the year ended December 31, 2020 was primarily attributable to the impact of net new loan volume in the Rural Utilities portfolio and the impact of economic factor forecasts on the Rural Utilities portfolio, especially continued expected higher unemployment, as a result of the COVID-19 pandemic and the resulting economic volatility. The provision to the allowance for Farm & Ranch loan losses of \$3.0 million recorded during the year ended December 31, 2020 was primarily related to the Farm & Ranch agricultural storage & processing loan secured by a specialized poultry facility that Farmer Mac has deemed to be a CDA. The provision was more than offset by charge-offs from the allowance of \$5.8 million, primarily related to the specialized poultry loan because a portion of the loan was deemed to be uncollectible.

The provision to the allowance for loan losses recorded during 2019 was primarily attributable to a specific reserve on a single specialized poultry loan, a decrease in overall credit quality, and net portfolio growth. The allowance for losses in the Farm & Ranch portfolio, as a percentage of outstanding loan volume, increased slightly from the previous year. The total provision for losses increased by \$3.2 million, during 2019 as compared to 2018, primarily due to the specific reserve on the single specialized poultry loan mentioned above and a decrease in overall credit quality combined with net portfolio growth.

During 2018, the total allowance for losses increased because of increased loan volume within Farmer Mac's Farm & Ranch portfolio. The total allowance for losses in the Farm & Ranch portfolio, as a percentage of outstanding loan volume, remained consistent with recent years. The total provision for losses decreased by \$1.4 million during 2018 as compared to 2017 primarily due to decreased loan growth year-over-year and modestly improved credit quality in the Farm & Ranch portfolio.

The following table presents the unpaid principal balances by delinquency status of Farmer Mac's loans and non-performing assets as of December 31, 2020:

Table 8.4

	As of December 31, 2020						
	Accruing				Total Past Due	Nonaccrual loans ⁽³⁾⁽⁴⁾	Total Loans
Current ⁽⁵⁾	30-59 Days	60-89 Days	90 Days and Greater ⁽²⁾				
	<i>(in thousands)</i>						
Loans ⁽¹⁾ :							
Farm & Ranch	\$ 6,055,154	\$ 4,582	\$ 632	\$ 1,072	\$ 6,286	\$ 114,998	\$ 6,176,438
Rural Utilities	2,260,412	—	—	—	—	—	2,260,412
Total	\$ 8,315,566	\$ 4,582	\$ 632	\$ 1,072	\$ 6,286	\$ 114,998	\$ 8,436,850

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

⁽²⁾ Includes loans in consolidated trusts with beneficial interests owned by third parties that are 90 days or more past due.

⁽³⁾ Includes loans that are 90 days or more past due, in foreclosure, or in bankruptcy with at least one missed payment, excluding loans performing under either their original loan terms or a court-approved bankruptcy plan.

⁽⁴⁾ Includes \$44.2 million of nonaccrual loans for which there was no associated allowance. During the year ended December 31, 2020, Farmer Mac received \$4.4 million in interest on nonaccrual loans.

⁽⁵⁾ Includes \$145.5 million of unpaid principal balance related to Farm & Ranch loans that Farmer Mac has executed a COVID-19 payment deferment.

The following table presents the unpaid principal balances of loans held and the related total allowance for losses by impairment method and commodity type as of December 31, 2019:

Table 8.5

	As of December 31, 2019						
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	<i>(in thousands)</i>						
Ending Balance:							
Collectively evaluated for impairment	\$ 2,664,362	\$ 1,161,900	\$ 871,341	\$ 356,920	\$ 10,360	\$ 4,597	\$ 5,069,480
Individually evaluated for impairment	108,815	51,256	39,962	7,044	—	—	207,077
Total Farm & Ranch loans	<u>\$ 2,773,177</u>	<u>\$ 1,213,156</u>	<u>\$ 911,303</u>	<u>\$ 363,964</u>	<u>\$ 10,360</u>	<u>\$ 4,597</u>	<u>\$ 5,276,557</u>
Allowance for Losses:							
Collectively evaluated for impairment	\$ 1,880	\$ 1,362	\$ 714	\$ 249	\$ 47	\$ 4	\$ 4,256
Individually evaluated for impairment	2,628	1,008	2,447	115	—	—	6,198
Total Farm & Ranch loans	<u>\$ 4,508</u>	<u>\$ 2,370</u>	<u>\$ 3,161</u>	<u>\$ 364</u>	<u>\$ 47</u>	<u>\$ 4</u>	<u>\$ 10,454</u>

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

Table 8.6

As of December 31, 2019								
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total	
<i>(in thousands)</i>								
Impaired Loans:								
With no specific allowance:								
Recorded investment	\$ 30,846	\$ 16,696	\$ 3,195	\$ 1,398	\$ —	\$ 56	\$ 52,191	
Unpaid principal balance	30,741	16,638	3,185	1,394	—	56	52,014	
With a specific allowance:								
Recorded investment ⁽¹⁾	84,044	36,852	47,113	6,376	—	—	174,385	
Unpaid principal balance	83,772	36,732	46,984	6,356	—	—	173,844	
Associated allowance	2,725	1,051	2,636	129	—	—	6,541	
Total:								
Recorded investment	114,890	53,548	50,308	7,774	—	56	226,576	
Unpaid principal balance	114,513	53,370	50,169	7,750	—	56	225,858	
Associated allowance	2,725	1,051	2,636	129	—	—	6,541	
Recorded investment of loans on nonaccrual status ⁽²⁾								
	\$ 34,037	\$ 22,849	\$ 28,441	\$ 2,454	\$ —	\$ —	\$ 87,781	

⁽¹⁾ Impairment analysis was performed in the aggregate in consideration of similar risk characteristics of the assets and historical statistics on \$159.1 million (70%) of impaired loans as of December 31, 2019, which resulted in a specific allowance of \$3.0 million.

⁽²⁾ Includes \$30.1 million of loans that are less than 90 days delinquent but which have not met Farmer Mac's performance criteria for returning to accrual status.

The following table presents by commodity type the average recorded investment and interest income recognized on impaired loans for the year ended December 31, 2019:

Table 8.7

December 31, 2019								
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total	
<i>(in thousands)</i>								
For the Year Ended:								
Average recorded investment in impaired loans	\$101,053	\$ 44,986	\$ 36,054	\$ 7,953	\$ —	\$ 60	\$ 190,106	
Income recognized on impaired loans	1,157	625	687	284	—	—	2,753	

Net credit losses and 90-day delinquencies as of and for the periods indicated for loans held are presented in the table below. As of December 31, 2019, there were no delinquencies and no probable losses inherent in Farmer Mac's Rural Utilities loan portfolio and Farmer Mac had not experienced credit losses on any Rural Utilities loans.

Table 8.8

	90-Day Delinquencies ⁽¹⁾		Net Credit Losses	
	As of		For the Year Ended	
	December 31, 2019		December 31, 2019	December 31, 2018
	<i>(in thousands)</i>			
Farm & Ranch loans	\$	57,719	\$	131
			\$	40

⁽¹⁾ 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.

Rural Utilities

As of December 31, 2019, no allowance for losses had been provided for Farmer Mac's Rural Utilities line of business based on the performance of the loans in this line of business and the credit quality of the collateral supporting these loans, as well as Farmer Mac's counterparty risk analysis. As of December 31, 2019, there were no delinquencies or probable losses inherent in Farmer Mac's Rural Utilities loans held or underlying LTSPCs.

Credit Quality Indicators

The following tables present credit quality indicators related to Farm & Ranch loans and Rural Utilities loans held as of December 31, 2020, by year of origination:

Table 8.9

	As of December 31, 2020							Revolving Loans - Amortized Cost Basis	Total
	Year of Origination:								
	2020	2019	2018	2017	2016	Prior			
	<i>(in thousands)</i>								
Farm & Ranch⁽¹⁾:									
Internally Assigned Risk Rating:									
Acceptable	\$1,947,618	\$ 774,315	\$ 484,345	\$ 500,768	\$ 465,277	\$1,068,693	\$ 535,742	\$5,776,758	
Special mention ⁽²⁾	70,171	79,744	18,317	8,530	13,111	21,328	7,656	218,857	
Substandard ⁽³⁾	3,400	5,821	21,879	52,709	37,173	50,582	9,259	180,823	
Total	<u>\$2,021,189</u>	<u>\$ 859,880</u>	<u>\$ 524,541</u>	<u>\$ 562,007</u>	<u>\$ 515,561</u>	<u>\$1,140,603</u>	<u>\$ 552,657</u>	<u>\$6,176,438</u>	
For the Year Ended:									
Current period charge-offs	\$ —	\$ —	\$ —	\$ 5,365	\$ —	\$ 394	\$ —	\$ 5,759	
Current period recoveries	—	—	—	—	—	—	—	—	
Current period Farm & Ranch net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 5,365</u>	<u>\$ —</u>	<u>\$ 394</u>	<u>\$ —</u>	<u>\$ 5,759</u>	

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

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

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

As of December 31, 2020

	Year of Origination:						Revolving Loans - Amortized Cost Basis	Total	
	2020	2019	2018	2017	2016	Prior			
	<i>(in thousands)</i>								
Rural Utilities⁽¹⁾:									
Internally Assigned Risk Rating:									
Acceptable	\$ 667,489	\$ 809,921	\$ 8,260	\$ 89,842	\$ 31,275	\$ 641,145	\$ 12,480	\$2,260,412	
Special mention ⁽²⁾	—	—	—	—	—	—	—	—	
Substandard ⁽³⁾	—	—	—	—	—	—	—	—	
Total	\$ 667,489	\$ 809,921	\$ 8,260	\$ 89,842	\$ 31,275	\$ 641,145	\$ 12,480	\$2,260,412	
For the Year Ended:									
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	
Current period recoveries	—	—	—	—	—	—	—	—	
Current period Rural Utilities net charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	

- (1) Amounts represent unpaid principal balance of risk-rated loans, which is the basis Farmer Mac uses to analyze its portfolio, and recorded investment of past due loans.
- (2) Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.
- (3) Substandard assets have a well-defined weakness or weaknesses and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected.

The following table presents credit quality indicators related to Farm & Ranch loans held as of December 31, 2019:

Table 8.10

	As of December 31, 2019						Total
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	
	<i>(in thousands)</i>						
Internally Assigned Risk Rating⁽¹⁾							
Acceptable	\$ 2,556,956	\$ 1,050,160	\$ 825,234	\$ 343,329	\$ 10,360	\$ 4,597	\$ 4,790,636
Special mention ⁽²⁾	107,406	111,739	46,107	13,591	—	—	278,843
Substandard ⁽³⁾	108,815	51,257	39,962	7,044	—	—	207,078
Total	\$ 2,773,177	\$ 1,213,156	\$ 911,303	\$ 363,964	\$ 10,360	\$ 4,597	\$ 5,276,557
Commodity analysis of past due loans⁽¹⁾							
	\$ 21,167	\$ 15,828	\$ 19,354	\$ 1,370	\$ —	\$ —	\$ 57,719

- (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 2020, 2019, and 2018, Farmer Mac paid a quarterly dividend of \$0.80, \$0.70, and \$0.58 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.

Farmer Mac's board of directors approved a share repurchase program during third quarter 2015 authorizing Farmer Mac to repurchase up to \$25.0 million of its outstanding Class C non-voting common stock. The share repurchase program, last modified on March 14, 2019, authorized Farmer Mac to repurchase up to \$10.0 million of Farmer Mac's outstanding Class C non-voting common stock. During first quarter 2020, Farmer Mac repurchased approximately 4,000 shares of Class C non-voting common stock at a cost of approximately \$0.2 million. Shortly after these repurchases were completed, Farmer Mac indefinitely suspended its share repurchase program in an effort to preserve capital and liquidity in view of market volatility and uncertainty caused by the COVID-19 pandemic. As of December 31, 2020, 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 program expires at the end of March 2021.

Preferred Stock

On August 20, 2020, Farmer Mac issued 4.8 million shares of 5.250% Non-Cumulative Preferred Stock, Series F ("Series F Preferred Stock"), which has a par value and liquidation preference of \$25.00 per share, or \$120.0 million aggregate outstanding. Farmer Mac incurred direct costs of \$3.8 million related to the issuance of the Series F Preferred Stock. The dividend rate on the Series F Preferred Stock will remain at a non-cumulative, fixed rate of 5.250% per year, when, as, and if a dividend is declared by the Board of Directors of Farmer Mac, for so long as the Series F Preferred Stock remains outstanding. The Series F Preferred Stock has no maturity date, but Farmer Mac has the option to redeem the Series F Preferred Stock at any time on any dividend payment date on and after October 17, 2025.

On September 19, 2020, Farmer Mac used part of the net proceeds from the sale of the Series F Preferred Stock to redeem and repurchase all \$60.0 million aggregate outstanding of Farmer Mac's 5.875% Non-Cumulative Preferred Stock, Series A ("Series A Preferred Stock"), plus any declared and unpaid dividends through and including the redemption date. As a result of the retirement of the Series A

Preferred Stock, Farmer Mac recognized \$1.7 million of deferred issuance costs, which is presented as "Loss on retirement of preferred stock" on the consolidated statements of operations.

In May 2020, Farmer Mac issued 3.18 million shares of 5.750% Non-Cumulative Preferred Stock, Series E ("Series E Preferred Stock"), which has a par value and liquidation preference of \$25.00 per share, or \$79.5 million aggregate outstanding. Farmer Mac incurred direct costs of \$2.5 million related to the issuance of the Series E Preferred Stock. The dividend rate on the Series E Preferred Stock will remain at a non-cumulative, fixed rate of 5.750% per year, when, as, and if a dividend is declared by the Board of Directors of Farmer Mac, for so long as the Series E Preferred Stock remains outstanding. The Series E Preferred Stock has no maturity date, but Farmer Mac has the option to redeem the preferred stock at any time on any dividend payment date on and after July 17, 2025.

The following table presents the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock, and the Series F Preferred Stock (collectively referred to as the "Outstanding Preferred Stock") as of December 31, 2020:

Table 9.1

Name	Issuance Date	Issuance Cost	Shares Issued	Annual Dividend Rate ⁽³⁾	Liquidation Value	Redemption Date ⁽⁴⁾
Series C ⁽¹⁾	June 20, 2014	\$ 1,618,583	3,000,000	6.000 %	\$ 25.00	July 18, 2024
Series D ⁽²⁾	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

⁽¹⁾ 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 occurring on July 17, 2024, and thereafter, at a floating rate equal to three-month LIBOR plus 3.26%.

⁽²⁾ Farmer Mac has the option to redeem the preferred stock on any quarterly dividend payment date on and after July 17, 2024.

⁽³⁾ 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.

⁽⁴⁾ 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 2020, 2019, and 2018:

Table 9.2

	2020			
	1st Quarter	2nd Quarter ⁽¹⁾	3rd Quarter ⁽²⁾⁽³⁾	4th Quarter
5.875% Non-Cumulative Preferred Stock, Series A	\$ 0.3672	\$ 0.3672	\$ 0.2530	\$ —
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	—	0.2276	0.3594	0.3594
5.250% Non-Cumulative Preferred Stock, Series F	—	—	0.2078	0.3281

⁽¹⁾ For second quarter 2020, dividend payment includes \$0.2276 per share on the Series E Preferred Stock for the period from but not including May 20, 2020 (issuance date) to and including the July 17, 2020.

⁽²⁾ For third quarter 2020 dividend payment includes \$0.2530 per share on the Series A Preferred Stock for the period from but not including July 17, 2020 to and including the September 19, 2020 redemption date.

⁽³⁾ For third quarter 2020, dividend payment includes \$0.2078 per share on the Series F Preferred Stock for the period from but not including August 20, 2020 (issuance date) to and including the October 17, 2020.

	2019			
	1st Quarter	2nd Quarter ⁽¹⁾⁽²⁾	3rd Quarter	4th Quarter
5.875% Non-Cumulative Preferred Stock, Series A	\$ 0.3672	\$ 0.3672	\$ 0.3672	\$ 0.3672
6.875% Non-Cumulative Preferred Stock, Series B	0.4297	0.2626	—	—
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	—	0.2533	0.3563	0.3563

⁽¹⁾ For second quarter 2019, dividend payment includes \$0.2626 per share on the Series B Preferred Stock for the period from but not including April 17, 2019 to and including the June 12, 2019 redemption date.

⁽²⁾ For second quarter 2019, dividend payment includes \$0.2533 per share on the Series D Preferred Stock for the period from but not including May 13, 2019 (issuance date) to and including July 17, 2019.

	2018			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
5.875% Non-Cumulative Preferred Stock, Series A	\$ 0.3672	\$ 0.3672	\$ 0.3672	\$ 0.3672
6.875% Non-Cumulative Preferred Stock, Series B	0.4297	0.4297	0.4297	0.4297
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	0.3750	0.3750	0.3750	0.3750

Equity-Based Incentive Compensation Plans

Farmer Mac's Amended and Restated 2008 Omnibus Incentive Compensation Plan authorizes the grant of restricted stock 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 2020 have an exercise price ranging from \$72.26 to \$75.16 per share, SARs granted during 2019 have an exercise price of \$82.76 per share, and SARs granted during 2018 have an exercise price of \$86.15 per share. During 2020, 2019, and 2018, restricted stock 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 activity for the years ended December 31, 2020, 2019, and 2018:

Table 9.3

	For the Years Ended December 31,					
	2020		2019		2018	
	SARs	Weighted-Average Exercise Price	SARs	Weighted-Average Exercise Price	SARs	Weighted-Average Exercise Price
Outstanding, beginning of year	98,836	\$ 46.47	124,960	\$ 38.38	163,272	\$ 32.95
Granted	34,881	74.80	24,582	82.76	10,122	86.15
Exercised	(15,912)	26.93	(40,851)	35.61	(48,434)	30.06
Canceled	(1,388)	86.15	(9,855)	79.45	—	—
Outstanding, end of year	<u>116,417</u>	<u>57.16</u>	<u>98,836</u>	<u>46.47</u>	<u>124,960</u>	<u>38.38</u>
Exercisable at end of year	66,602	42.08	72,696	34.07	95,675	31.41

	For the Years Ended December 31,					
	2020		2019		2018	
	Non-vested Restricted Stock	Weighted-Average Grant Date Fair Value	Non-vested Restricted Stock	Weighted-Average Grant Date Fair Value	Non-vested Restricted Stock	Weighted-Average Grant Date Fair Value
Outstanding, beginning of year	62,597	\$ 75.81	80,153	\$ 60.98	95,015	\$ 44.39
Granted	53,471	66.02	41,735	80.51	32,070	84.03
Canceled	(4,042)	69.66	(17,054)	74.97	(1,098)	86.15
Vested and issued	(28,070)	70.13	(42,237)	52.65	(45,834)	42.12
Outstanding, end of year	<u>83,956</u>	<u>71.76</u>	<u>62,597</u>	<u>75.81</u>	<u>80,153</u>	<u>60.98</u>

The cancellations of SARs and non-vested restricted stock during 2020, 2019, and 2018 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. During 2020, 2019, and 2018, the reduction of income taxes payable as a result of the deduction for the exercise of SARs and the vesting or accelerated tax elections of restricted stock was \$0.5 million, \$1.0 million, and \$1.5 million, respectively. During 2020 and 2019, Farmer Mac recognized \$8,900 and \$0.4 million, respectively, of tax benefits recognized in income tax expense associated with stock compensation activity.

During 2020, 2019, and 2018, Farmer Mac recorded a net decrease to additional paid-in capital of \$0.6 million, \$1.8 million, and \$2.7 million, respectively, related to stock-based compensation awards.

As of December 31, 2020, Farmer Mac had no stock options outstanding. The following tables summarize information regarding SARs and non-vested restricted stock outstanding as of December 31, 2020:

Table 9.4

SARs:

Range of Exercise Prices	Outstanding		Exercisable		Vested or Expected to Vest	
	SARs	Weighted-Average Remaining Contractual Life	SARs	Weighted-Average Remaining Contractual Life	SARs	Weighted-Average Remaining Contractual Life
\$10.00 - \$24.99	9,000	1.1 years	9,000	1.1 years	9,000	1.1 years
25.00 - 39.99	40,537	3.7 years	40,537	3.7 years	40,537	3.7 years
40.00 - 54.99	—	0.0 years	—	0.0 years	—	0.0 years
55.00 - 69.99	6,619	6.3 years	6,619	6.3 years	6,619	6.3 years
70.00 - 84.99	54,303	8.9 years	6,474	8.3 years	54,303	8.9 years
85.00 - 99.99	5,958	7.3 years	3,972	7.3 years	5,958	7.3 years
	<u>116,417</u>		<u>66,602</u>		<u>116,417</u>	

Non-vested Restricted Stock:

Weighted-Average Grant-Date Fair Value	Outstanding		Expected to Vest	
	Non-vested Restricted Stock	Weighted-Average Remaining Contractual Life	Non-vested Restricted Stock	Weighted-Average Remaining Contractual Life
\$35.00 - \$49.99	—	0.0 years	—	0.0 years
50.00 - 64.99	19,622	2.2 years	19,622	2.2 years
65.00 - 79.99	43,804	1.4 years	43,804	1.4 years
80.00 - 94.99	20,530	0.8 years	20,530	0.8 years
	<u>83,956</u>		<u>83,956</u>	

As of December 31, 2020 and 2019, the intrinsic value of SARs, and non-vested restricted stock outstanding, exercisable, and vested or expected to vest was \$8.5 million and \$8.9 million, respectively. During 2020, 2019, and 2018, the total intrinsic value of SARs exercised was \$0.7 million, \$1.9 million, and \$3.0 million, respectively. As of December 31, 2020, there was \$2.4 million of total unrecognized compensation cost related to non-vested SARs and restricted stock awards. This cost is expected to be recognized over a weighted-average period of 1.8 years.

The weighted-average grant date fair values of SARs and restricted stock awards granted in 2020, 2019, and 2018 were \$45.91, \$58.27, and \$69.38 per share, respectively. Under the fair value-based method of accounting for stock-based compensation cost, Farmer Mac recognized compensation expense of \$4.1 million, \$2.3 million, and \$2.5 million during 2020, 2019, and 2018, 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,		
	2020	2019	2018
Risk-free interest rate	0.9%	2.5%	2.7%
Expected years until exercise	6 years	6 years	6 years
Expected stock volatility	34.3%	33.8%	33.0%
Dividend yield	4.2%	3.4%	2.7%

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 restricted stock awards will be issued upon vesting regardless of the stock price, expected stock volatility is not considered in determining grant date fair value. Restricted stock awards also accrue dividends which are paid at vesting. The weighted-average grant date fair value of the restricted stock awarded in 2020, 2019, and 2018 was \$66.02, \$80.51, and \$84.03 per share, respectively, which is based on the closing price of the 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, 2020 and December 31, 2019, 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, 2020, Farmer Mac's minimum capital requirement was \$680.9 million and its core capital level was \$1.0 billion, which was \$325.5 million above the minimum capital requirement as of that date. As of December 31, 2019, Farmer Mac's minimum capital requirement was \$618.8 million and its core capital level was \$815.4 million, which was \$196.6 million above the minimum capital requirement as of that date.

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

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, 2020, 2019, and 2018 were as follows:

Table 10.1

	For the Year Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Current income tax expense	\$ 30,634	\$ 28,316	\$ 25,317
Deferred income tax expense	(1,849)	789	2,625
Income tax expense	<u>\$ 28,785</u>	<u>\$ 29,105</u>	<u>\$ 27,942</u>

A reconciliation of income tax at the statutory federal corporate income tax rate to the income tax expense for the years ended December 31, 2020, 2019, and 2018 is as follows:

Table 10.2

	For the Year Ended December 31,		
	2020	2019	2018
	<i>(dollars in thousands)</i>		
Tax expense at statutory rate	\$ 28,861	\$ 29,117	\$ 28,564
Excess tax benefits related to stock-based awards	(9)	(449)	(946)
Valuation allowance	—	49	—
Other	(67)	388	324
Income tax expense	<u>\$ 28,785</u>	<u>\$ 29,105</u>	<u>\$ 27,942</u>
Statutory tax rate	21.0 %	21.0 %	21.0 %

The components of the deferred tax assets and liabilities as of December 31, 2020 and 2019 were as follows:

Table 10.3

	As of December 31,	
	2020	2019
	<i>(in thousands)</i>	
Deferred tax assets:		
Basis differences related to financial derivatives	\$ 100,099	\$ 51,177
Unrealized losses on securities	—	2,805
Allowance for losses	3,690	2,650
Unrealized losses on cash flow hedges	6,065	1,491
Compensation and benefits	1,020	819
Stock-based compensation	1,027	571
Capital loss carryforwards and other-than-temporary impairment	86	86
Valuation allowance	(86)	(86)
Other	341	88
Total deferred tax assets	112,242	59,601
Deferred tax liability:		
Basis differences related to hedged items	91,460	42,940
Unrealized gains on securities	2,364	—
Other	97	151
Total deferred tax liability	93,921	43,091
Net deferred tax asset	\$ 18,321	\$ 16,510

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 \$86,000 as of both December 31, 2020 and 2019, 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, 2020, no capital loss carryforwards expired. As of December 31, 2020, the amount of capital loss carryforwards was \$0.4 million. These capital loss carryforwards will expire beginning in 2021.

As of December 31, 2020 and 2019, Farmer Mac did not identify any uncertain tax positions.

Farmer Mac did not have any unrecognized tax benefits for the years ended December 31, 2020, 2019, and 2018.

Tax years 2017 through 2020 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") (\$285,000 for 2020, \$280,000 for 2019, and \$275,000 for 2018), 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, 2020, 2019, and 2018 were \$2.2 million, \$1.9 million, and \$1.8 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 \$700,000 for Farmer Mac's Chief Executive Officer and \$500,000 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 \$0.2 million, \$0.1 million, and \$0.1 million for the years ended December 31, 2020, 2019, and 2018, respectively.

12. GUARANTEES

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, which are available through each of the Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit lines of business, and (2) LTSPCs, which are available through the Farm & Ranch or the Rural Utilities 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. Guarantees issued or modified on or after January 1, 2003 are recorded in the consolidated balance sheets. Farmer Mac's maximum potential exposure was \$3.3 billion and \$3.5 billion as of December 31, 2020 and 2019, respectively. Farmer Mac's maximum potential exposure for guarantees issued before January 1, 2003, which are not recorded on the consolidated balance sheets, was \$10.8 million and \$15.5 million as of December 31, 2020 and 2019, 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, 2020, 2019, and 2018:

Table 12.1

	For the Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Beginning balance, January 1	\$ 36,700	\$ 38,683	\$ 38,400
Additions to the guarantee and commitment obligation ⁽¹⁾	5,210	4,398	6,202
Amortization of the guarantee and commitment obligation	(6,375)	(6,381)	(5,919)
Ending balance, December 31	<u>\$ 35,535</u>	<u>\$ 36,700</u>	<u>\$ 38,683</u>

⁽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, 2020 and 2019, 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, 2020	As of December 31, 2019
	<i>(in thousands)</i>	
Farm & Ranch:		
Farmer Mac Guaranteed Securities	\$ 79,312	\$ 107,322
USDA Guarantees:		
Farmer Mac Guaranteed USDA Securities	299,298	389,216
Institutional Credit:		
AgVantage Securities	4,412	7,567
Total off-balance sheet Farmer Mac Guaranteed Securities	\$ 383,022	\$ 504,105

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 Years Ended December 31,		
	2020	2019	2018
	<i>(in thousands)</i>		
Proceeds from new securitizations	\$ 165,054	\$ 321,414	\$ 382,929
Guarantee fees received	1,365	1,413	1,920

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, 2020	As of December 31, 2019
	<i>(dollars in thousands)</i>	
Guarantee and commitment obligation	\$ 1,625	\$ 2,230
Weighted average remaining maturity:		
Farmer Mac Guaranteed Securities	9.5 years	9.8 years
AgVantage Securities	4.0 years	5.0 years

Long-Term Standby Purchase Commitments

Farmer Mac has recorded a liability for its obligation to stand ready under the guarantee in the guarantee and commitment obligation on the consolidated balance sheets. 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

	<u>As of December 31, 2020</u>	<u>As of December 31, 2019</u>
	<i>(dollars in thousands)</i>	
Guarantee and commitment obligation ⁽¹⁾	\$ 33,909	\$ 34,470
Maximum principal amount	2,881,856	3,002,349
Weighted-average remaining maturity	15.3 years	15.2 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, 2020 and 2019, commitments to purchase Farm & Ranch loans and USDA Guarantees totaled \$125.8 million and \$65.1 million, respectively, all of which were mandatory commitments. As of December 31, 2020, there were no commitments to purchase Rural Utilities loans. 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

The following table is a summary, by asset type, of the reserve for losses as of December 31, 2020 and December 31, 2019:

Table 12.6

	December 31, 2020 ⁽¹⁾	December 31, 2019 ⁽²⁾
	Reserve for Losses	Reserve for Losses
	<i>(in thousands)</i>	
Farm & Ranch:		
LTSPCs and Farmer Mac Guaranteed Securities	\$ 2,097	\$ 2,164
Rural Utilities		
LTSPCs	1,180	—
Total	\$ 3,277	\$ 2,164

⁽¹⁾ Reserve for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," in first quarter 2020.

⁽²⁾ Prior to the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," in first quarter 2020, Farmer Mac maintained a reserve for losses to cover estimated probable incurred losses on loans underlying LTSPCs and off-balance sheet Farm & Ranch Farmer Mac Guaranteed Securities.

The following is a summary of the changes in the reserve for losses for each year in the three-year period ended December 31, 2020:

Table 12.7

	Farm & Ranch	Rural Utilities
	Reserve for Losses	Reserve for Losses
	<i>(in thousands)</i>	
Balance as of December 31, 2017 ⁽¹⁾	\$ 2,070	\$ —
Provision for losses	97	—
Balance as of December 31, 2018 ⁽¹⁾	\$ 2,167	\$ —
(Release of)/provision for losses	(3)	—
Balance as of December 31, 2019 ⁽¹⁾	\$ 2,164	\$ —
Cumulative effect adjustment from adoption of current expected credit loss standard	(148)	1,011
Adjusted Beginning Balance	2,016	1,011
Provision for losses	81	169
Balance as of December 31, 2020 ⁽²⁾	\$ 2,097	\$ 1,180

⁽¹⁾ Prior to the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," in first quarter 2020, Farmer Mac maintained a reserve for losses to cover estimated probable incurred losses on loans underlying LTSPCs and off-balance sheet Farm & Ranch Farmer Mac Guaranteed Securities.

⁽²⁾ Reserve for losses reflects the adoption of ASU 2016-13, "Financial Instruments - Credit Losses," in first quarter 2020.

The provision to the reserve for losses recorded during the year ended December 31, 2020 was primarily due to credit downgrades in the LTSPC portfolio.

The following table presents the unpaid principal balances by delinquency status of Farm & Ranch loans underlying LTSPCs, Farm & Ranch Farmer Mac Guaranteed Securities, Rural Utilities loans underlying LTSPCs, and non-performing assets as of December 31, 2020:

Table 12.8

	As of December 31, 2020					
	Current ⁽²⁾	30-59 Days	60-89 Days	90 Days and Greater ⁽¹⁾	Total Past Due	Total Loans
<i>(in thousands)</i>						
Farm and Ranch:						
LTSPCs and Farmer Mac Guaranteed Securities	\$ 2,389,777	\$ 2,189	\$ 1,344	\$ 11,433	\$ 14,966	\$ 2,404,743
Rural Utilities:						
LTSPCs	\$ 556,425	\$ —	\$ —	\$ —	\$ —	\$ 556,425

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

⁽²⁾ Includes \$193.7 million of unpaid principal balance related to Farm & Ranch LTSPCs for which the lender has notified Farmer Mac of an executed COVID-19 payment deferment.

The following table presents the unpaid principal balances of Farm & Ranch loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities (excluding AgVantage securities) and the related reserve for losses by impairment method and commodity type as of December 31, 2019:

Table 12.9

	As of December 31, 2019						
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
Ending Balance:							
Collectively evaluated for impairment:	\$ 1,151,983	\$ 511,991	\$ 581,377	\$ 167,395	\$ 66,106	\$ 2,760	\$ 2,481,612
Individually evaluated for impairment:	5,698	2,114	10,207	706	—	56	18,781
Total Farm & Ranch	<u>\$ 1,157,681</u>	<u>\$ 514,105</u>	<u>\$ 591,584</u>	<u>\$ 168,101</u>	<u>\$ 66,106</u>	<u>\$ 2,816</u>	<u>\$ 2,500,393</u>
Allowance for Losses:							
Collectively evaluated for impairment:	\$ 599	\$ 96	\$ 308	\$ 50	\$ 767	\$ 1	\$ 1,821
Individually evaluated for impairment:	97	43	189	14	—	—	343
Total Farm & Ranch	<u>\$ 696</u>	<u>\$ 139</u>	<u>\$ 497</u>	<u>\$ 64</u>	<u>\$ 767</u>	<u>\$ 1</u>	<u>\$ 2,164</u>

Net credit losses and 90-day delinquencies as of and for the periods indicated for loans underlying off-balance sheet securities representing interests in pools of eligible Farm & Ranch LTSPCs are presented in the table below. As of December 31, 2019, there were no delinquencies and no probable losses inherent in Farmer Mac's Rural Utilities LTSPCs portfolio and Farmer Mac had not experienced credit losses on any Rural Utilities LTSPCs.

Table 12.10

	90-Day Delinquencies ⁽¹⁾		Net Credit Losses/(Recoveries)	
	As of		For the Years Ended	
	December 31, 2019		December 31, 2019	December 31, 2018
	<i>(in thousands)</i>			
Farm & Ranch LTSPCs and Farmer Mac Guaranteed Securities	\$	3,235	\$	—

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

Credit Quality Indicators

The following tables present credit quality indicators related to Farm & Ranch loans underlying LTSPCs, Farm & Ranch Farmer Mac Guaranteed Securities, and Rural Utilities loans underlying LTSPCs as of December 31, 2020, by year of origination:

Table 12.11

	As of December 31, 2020							Revolving Loans - Amortized Cost Basis	Total
	Year of Origination:								
	2020	2019	2018	2017	2016	Prior			
	<i>(in thousands)</i>								
Farm & Ranch LTSPCs and Farmer Mac Guaranteed Securities:									
Internally Assigned Risk Rating:									
Acceptable	\$ 178,213	\$ 213,620	\$ 183,948	\$ 237,042	\$ 207,296	\$ 969,860	\$ 211,620	\$2,201,599	
Special mention ⁽¹⁾	3,920	1,742	1,502	5,603	19,644	50,004	10,058	92,473	
Substandard ⁽²⁾	264	10,250	12,611	14,578	7,841	60,602	4,525	110,671	
Total	<u>\$ 182,397</u>	<u>\$ 225,612</u>	<u>\$ 198,061</u>	<u>\$ 257,223</u>	<u>\$ 234,781</u>	<u>\$1,080,466</u>	<u>\$ 226,203</u>	<u>\$2,404,743</u>	
For the Year Ended:									
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	
Current period recoveries	—	—	—	—	—	—	—	—	
Current period Farm & Ranch net charge-offs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	

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

⁽²⁾ Substandard assets have a well-defined weakness or weaknesses and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected.

As of December 31, 2020									
Year of Origination:									
	2020	2019	2018	2017	2016	Prior	Revolving Loans - Amortized Cost Basis	Total	
<i>(in thousands)</i>									
Rural Utilities LTSPCs:									
Internally Assigned Risk Rating:									
Acceptable	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 549,405	\$ 7,020	\$ 556,425	
Special mention ⁽¹⁾	—	—	—	—	—	—	—	—	
Substandard ⁽²⁾	—	—	—	—	—	—	—	—	
Total	\$ —	\$ 549,405	\$ 7,020	\$ 556,425					
For the Year Ended:									
Current period charge-offs	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	
Current period recoveries	—	—	—	—	—	—	—	—	
Current period Rural Utilities net charge-offs	\$ —	\$ —	\$ —						

- (1) Assets in the "Special mention" category generally have potential weaknesses due to performance issues but are currently considered to be adequately secured.
- (2) Substandard assets have a well-defined weakness or weaknesses and there is a distinct possibility that some loss will be sustained if deficiencies are not corrected.

The following table presents credit quality indicators related to Farm & Ranch loans underlying LTSPCs and off-balance sheet Farm & Ranch Farmer Mac Guaranteed Securities as of December 31, 2019:

Table 12.12

As of December 31, 2019							
	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
<i>(in thousands)</i>							
Internally Assigned Risk Rating⁽¹⁾							
Acceptable	\$ 1,033,002	\$ 484,601	\$ 521,341	\$ 161,361	\$ 66,106	\$ 2,594	\$ 2,269,005
Special mention ⁽²⁾	68,372	22,909	35,618	1,612	—	—	128,511
Substandard ⁽³⁾	56,307	6,595	34,625	5,128	—	222	102,877
Total	\$ 1,157,681	\$ 514,105	\$ 591,584	\$ 168,101	\$ 66,106	\$ 2,816	\$ 2,500,393
Commodity analysis of past due loans⁽¹⁾	\$ 1,493	\$ 196	\$ 1,066	\$ 480	\$ —	\$ —	\$ 3,235

- (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.

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, 2020 and 2019, 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, 2020

	Level 1	Level 2	Level 3 ⁽¹⁾	Total
	<i>(in thousands)</i>			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 19,171	\$ 19,171
Floating rate asset-backed securities	—	6,231	—	6,231
Floating rate Government/GSE guaranteed mortgage-backed securities	—	2,360,026	—	2,360,026
Fixed rate GSE guaranteed mortgage-backed securities	—	313	—	313
Fixed rate U.S. Treasuries	1,467,951	—	—	1,467,951
Total Investment Securities	<u>1,467,951</u>	<u>2,366,570</u>	<u>19,171</u>	<u>3,853,692</u>
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	6,947,701	6,947,701
Total Farmer Mac Guaranteed Securities	—	—	6,947,701	6,947,701
USDA Securities:				
Trading	—	—	6,695	6,695
Total USDA Securities	—	—	6,695	6,695
Financial derivatives	—	17,468	—	17,468
Total Assets at fair value	<u>\$ 1,467,951</u>	<u>\$ 2,384,038</u>	<u>\$ 6,973,567</u>	<u>\$ 10,825,556</u>
Liabilities:				
Financial derivatives	\$ 82	\$ 29,810	\$ —	\$ 29,892
Total Liabilities at fair value	<u>\$ 82</u>	<u>\$ 29,810</u>	<u>\$ —</u>	<u>\$ 29,892</u>

⁽¹⁾ Level 3 assets represent 29% of total assets and 65% of financial instruments measured at fair value.

Assets and Liabilities Measured at Fair Value as of December 31, 2019

	Level 1	Level 2	Level 3 ⁽¹⁾	Total
	<i>(in thousands)</i>			
Recurring:				
Assets:				
Investment Securities:				
Available-for-sale:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ —	\$ —	\$ 18,912	\$ 18,912
Floating rate asset-backed securities	—	11,085	—	11,085
Floating rate Government/GSE guaranteed mortgage-backed securities	—	1,632,583	—	1,632,583
Fixed rate GSE guaranteed mortgage-backed securities	—	340	—	340
Fixed rate U.S. Treasuries	1,296,923	—	—	1,296,923
Total available-for-sale	1,296,923	1,644,008	18,912	2,959,843
Farmer Mac Guaranteed Securities:				
Available-for-sale:				
AgVantage	—	—	7,143,025	7,143,025
Total Farmer Mac Guaranteed Securities	—	—	7,143,025	7,143,025
USDA Securities:				
Trading	—	—	8,913	8,913
Total USDA Securities	—	—	8,913	8,913
Financial derivatives	—	10,519	—	10,519
Total Assets at fair value	<u>\$ 1,296,923</u>	<u>\$ 1,654,527</u>	<u>\$ 7,170,850</u>	<u>\$ 10,122,300</u>
Liabilities:				
Financial derivatives	\$ 51	\$ 26,991	\$ —	\$ 27,042
Total Liabilities at fair value	<u>\$ 51</u>	<u>\$ 26,991</u>	<u>\$ —</u>	<u>\$ 27,042</u>

⁽¹⁾ Level 3 assets represent 33% of total assets and 71% of financial instruments measured at fair value.

There were no significant assets or liabilities measured at fair value on a non-recurring basis as of December 31, 2020 or December 31, 2019.

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 both 2020 and 2019, there were no transfers within the fair value hierarchy for fair value measurements of Farmer Mac's investment securities, Farmer Mac Guaranteed Securities, USDA Securities, and financial derivatives.

The following tables present 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, 2020 and 2019.

Table 13.2

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2020

	Beginning Balance	Purchases	Sales	Settlements	Allowance for Losses	Realized and unrealized gains included in Income	Unrealized gains included in Other Comprehensive Income	Ending Balance
	<i>(in thousands)</i>							
Recurring:								
Assets:								
Investment Securities:								
Available-for-sale:								
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,912	\$ —	\$ —	\$ —	\$ (36)	\$ —	\$ 295	\$ 19,171
Total available-for-sale	18,912	—	—	—	(36)	—	295	19,171
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	7,143,025	974,237	—	(1,397,861)	(309)	202,706	25,903	6,947,701
Total available-for-sale	7,143,025	974,237	—	(1,397,861)	(309)	202,706	25,903	6,947,701
USDA Securities:								
Trading	8,913	—	—	(2,269)	—	51	—	6,695
Total USDA Securities	8,913	—	—	(2,269)	—	51	—	6,695
Total Assets at fair value	<u>\$ 7,170,850</u>	<u>\$ 974,237</u>	<u>\$ —</u>	<u>\$ (1,400,130)</u>	<u>\$ (345)</u>	<u>\$ 202,757</u>	<u>\$ 26,198</u>	<u>\$ 6,973,567</u>

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2019

	Beginning Balance	Purchases	Sales	Settlements	Realized and unrealized gains included in Income	Unrealized gains/(losses) included in Other Comprehensive Income	Ending Balance
<i>(in thousands)</i>							
Recurring:							
Assets:							
Investment Securities:							
Available-for-sale:							
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,715	\$ —	\$ —	\$ —	\$ —	\$ 197	\$ 18,912
Total available-for-sale	18,715	—	—	—	—	197	18,912
Farmer Mac Guaranteed Securities:							
Available-for-sale:							
AgVantage	5,974,497	2,033,713	—	(1,020,294)	181,144	(26,035)	7,143,025
Total available-for-sale	5,974,497	2,033,713	—	(1,020,294)	181,144	(26,035)	7,143,025
USDA Securities:							
Available-for-sale							
Trading	9,999	—	—	(1,412)	326	—	8,913
Total USDA Securities	9,999	57,853	(57,853)	(1,412)	326	—	8,913
Total Assets at fair value	\$ 6,003,211	\$ 2,091,566	\$ (57,853)	\$ (1,021,706)	\$ 181,470	\$ (25,838)	\$ 7,170,850

Level 3 Assets and Liabilities Measured at Fair Value for the Year Ended December 31, 2018

	Beginning Balance	Cumulative Effect from Change in Hedge Accounting	Purchases	Sales	Settlements	Realized and unrealized (losses)/gains included in Income	Unrealized gains/(losses) included in Other Comprehensive Income	Ending Balance
<i>(in thousands)</i>								
Recurring:								
Assets:								
Investment Securities:								
Available-for-sale:								
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,814	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (99)	\$ 18,715
Fixed rate GSE guaranteed mortgage-backed securities	4,333	—	—	—	(2,137)	(2,092)	(104)	—
Total available-for-sale	23,147	—	—	—	(2,137)	(2,092)	(203)	18,715
Farmer Mac Guaranteed Securities:								
Available-for-sale:								
AgVantage	5,471,914	487	2,177,546	—	(1,670,402)	21,459	(26,507)	5,974,497
Total available-for-sale	5,471,914	487	2,177,546	—	(1,670,402)	21,459	(26,507)	5,974,497
USDA Securities:								
Available-for-sale								
Trading ⁽¹⁾	13,515	—	—	—	(3,597)	81	—	9,999
Total USDA Securities	13,515	—	127,850	(127,850)	(3,597)	81	—	9,999
Total Assets at fair value	\$ 5,508,576	\$ 487	\$ 2,305,396	\$ (127,850)	\$ (1,676,136)	\$ 19,448	\$ (26,710)	\$ 6,003,211

⁽¹⁾ Includes unrealized gains of \$0.1 million attributable to assets still held as of December 31, 2018 that are recorded in "Gains on trading securities."

The following tables present additional information about the significant unobservable inputs, such as discount rates and constant prepayment rates ("CPR"), used in the fair value measurements categorized in Level 3 of the fair value hierarchy as of December 31, 2020 and 2019:

Table 13.3

As of December 31, 2020				
Financial Instruments	Fair Value	Valuation Technique	Unobservable Input	Range (Weighted-Average)
			<i>(in thousands)</i>	
Assets:				
Investment securities:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 19,171	Indicative bids	Range of broker quotes	97.5% - 97.5% (97.5%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 6,947,701	Discounted cash flow	Discount rate	0.8% - 2.3% (1.3%)
USDA Securities	\$ 6,695	Discounted cash flow	Discount rate	0.9% - 1.9% (1.4%)
			CPR	25% - 49% (44%)
As of December 31, 2019				
Financial Instruments	Fair Value	Valuation Technique	Unobservable Input	Range (Weighted-Average)
			<i>(in thousands)</i>	
Assets:				
Investment securities:				
Floating rate auction-rate certificates backed by Government guaranteed student loans	\$ 18,912	Indicative bids	Range of broker quotes	96.0% - 96.0% (96.0%)
Farmer Mac Guaranteed Securities:				
AgVantage	\$ 7,143,025	Discounted cash flow	Discount rate	2.3% - 5.5% (2.6%)
USDA Securities	\$ 8,913	Discounted cash flow	Discount rate	2.3% - 2.6% (2.1%)
			CPR	10% - 21% (19%)

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

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

Disclosures on Fair Value of Financial Instruments

The following table sets forth the estimated fair values and carrying values for financial assets, liabilities, and guarantees and commitments as of December 31, 2020 and 2019:

Table 13.4

	As of December 31, 2020		As of December 31, 2019	
	Fair Value	Carrying Amount	Fair Value	Carrying Amount
<i>(in thousands)</i>				
Financial assets:				
Cash and cash equivalents	\$ 1,033,941	\$ 1,033,941	\$ 604,381	\$ 604,381
Investment securities	3,899,925	3,898,724	3,005,828	3,004,875
Farmer Mac Guaranteed Securities	8,148,691	8,123,493	8,606,451	8,590,476
USDA Securities	2,637,509	2,480,321	2,294,671	2,241,073
Loans	9,167,525	8,535,146	7,317,091	6,981,440
Financial derivatives	17,468	17,468	10,519	10,519
Guarantee and commitment fees receivable	34,115	37,113	36,732	38,442
Financial liabilities:				
Notes payable	22,130,263	21,848,917	19,234,079	19,098,648
Debt securities of consolidated trusts held by third parties	1,390,330	1,323,786	1,663,177	1,616,504
Financial derivatives	29,892	29,892	27,042	27,042
Guarantee and commitment obligations	32,537	35,535	34,990	36,700

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

14. BUSINESS SEGMENT REPORTING

Farmer Mac's operations consist of four operating segments – Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit. The Institutional Credit segment comprises Farmer Mac's purchases and guarantees of AgVantage securities related to general obligations of lenders that are secured by pools of eligible loans.

Each segment is based on distinct products and distinct business activities. In addition to these four operating segments, a corporate segment is presented. That segment represents activity in Farmer Mac's investment portfolio and other corporate activities. Each operating segment's financial results include directly attributable revenues and expenses. Corporate charges for administrative expenses not directly attributable to an operating segment are allocated to each segment based on headcount.

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, 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.

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 reportable operating segments will differ from the stand-alone financial statements of Farmer Mac's subsidiaries. These differences will 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 dividends and interest expense related to the issuance of capital and the issuance of indebtedness managed at the corporate level. The allocation of general and administrative expenses that are not directly attributable to an operating segment may also result in differences.

The following tables present core earnings for Farmer Mac's operating segments and a reconciliation to consolidated net income for the years ended December 31, 2020, 2019, and 2018:

Table 14.1

Core Earnings by Business Segment
For the Year Ended December 31, 2020

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
	<i>(in thousands)</i>						
Net interest income	\$ 73,901	\$ 19,570	\$ 21,963	\$ 67,953	\$ 7,201	\$ —	\$ 190,588
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(3,892)	2,395	2,734	4,533	598	(6,368)	—
Net effective spread	70,009	21,965	24,697	72,486	7,799	(6,368)	—
Guarantee and commitment fees ⁽²⁾	16,957	850	1,314	29	—	(6,601)	12,549
Other income/(expense) ⁽³⁾	2,556	1,098	32	—	(536)	604	3,754
Non-interest income/(loss)	19,513	1,948	1,346	29	(536)	(5,997)	16,303
Release of losses	(2,959)	—	(4,709)	(110)	(27)	—	(7,805)
Provision for reserve for losses	(81)	—	(169)	—	—	—	(250)
Other non-interest expense	(22,414)	(7,270)	(6,224)	(8,784)	(16,711)	—	(61,403)
Non-interest expense ⁽⁴⁾	(22,495)	(7,270)	(6,393)	(8,784)	(16,711)	—	(61,653)
Core earnings before income taxes	64,068	16,643	14,941	63,621	(9,475)	(12,365) ⁽⁵⁾	137,433
Income tax (expense)/benefit	(13,454)	(3,495)	(3,137)	(13,361)	2,066	2,596	(28,785)
Core earnings before preferred stock dividends	50,614	13,148	11,804	50,260	(7,409)	(9,769) ⁽⁵⁾	108,648
Preferred stock dividends	—	—	—	—	(17,805)	—	(17,805)
Loss on retirement of preferred stock	—	—	—	—	—	(1,667)	(1,667)
Segment core earnings/(losses)	<u>\$ 50,614</u>	<u>\$ 13,148</u>	<u>\$ 11,804</u>	<u>\$ 50,260</u>	<u>\$ (25,214)</u>	<u>\$ (11,436)⁽⁵⁾</u>	<u>\$ 89,176</u>
Total assets at carrying value	\$ 6,305,975	\$ 2,553,176	\$ 2,365,996	\$ 8,128,489	\$ 5,001,865	\$ —	\$ 24,355,501
Total on- and off-balance sheet program assets at principal balance	\$ 8,581,181	\$ 2,786,718	\$ 2,816,837	\$ 7,739,359	\$ —	\$ —	\$ 21,924,095

- (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 "(Losses)/gains on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends 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, 2019

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
	<i>(in thousands)</i>						
Net interest income	\$ 65,098	\$ 17,470	\$ 10,459	\$ 69,039	\$ 11,069	\$ —	\$ 173,135
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(9,471)	(732)	6,143	520	(987)	4,527	—
Net effective spread	55,627	16,738	16,602	69,559	10,082	4,527	—
Guarantee and commitment fees ⁽²⁾	18,593	958	1,412	372	—	(7,669)	13,666
Other income/(expense) ⁽³⁾	1,397	174	38	—	166	5,501	7,276
Non-interest income/(loss)	19,990	1,132	1,450	372	166	(2,168)	20,942
Provision for loan losses	(3,504)	—	—	—	—	—	(3,504)
Release of reserve for losses	3	—	—	—	—	—	3
Other non-interest expense	(19,375)	(5,757)	(3,898)	(8,390)	(14,505)	—	(51,925)
Non-interest expense ⁽⁴⁾	(19,372)	(5,757)	(3,898)	(8,390)	(14,505)	—	(51,922)
Core earnings before income taxes	52,741	12,113	14,154	61,541	(4,257)	2,359 ⁽⁵⁾	138,651
Income tax (expense)/benefit	(11,076)	(2,545)	(2,972)	(12,924)	907	(495)	(29,105)
Core earnings before preferred stock dividends	41,665	9,568	11,182	48,617	(3,350)	1,864 ⁽⁵⁾	109,546
Preferred stock dividends	—	—	—	—	(13,940)	—	(13,940)
Loss on retirement of preferred stock	—	—	—	—	—	(1,956)	(1,956)
Segment core earnings/(losses)	<u>\$ 41,665</u>	<u>\$ 9,568</u>	<u>\$ 11,182</u>	<u>\$ 48,617</u>	<u>\$ (17,290)</u>	<u>\$ (92)⁽⁵⁾</u>	<u>\$ 93,650</u>
Total assets at carrying value	\$5,408,302	\$ 2,311,932	\$1,717,405	\$ 8,606,912	\$ 3,664,823	\$ —	\$ 21,709,374
Total on- and off-balance sheet program assets at principal balance	\$7,776,950	\$ 2,620,175	\$2,280,571	\$ 8,440,246	\$ —	\$ —	\$ 21,117,942

- (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 "(Losses)/gains on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends 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, 2018

	Farm & Ranch	USDA Guarantees	Rural Utilities	Institutional Credit	Corporate	Reconciling Adjustments	Consolidated Net Income
	<i>(in thousands)</i>						
Net interest income	\$ 62,951	\$ 20,554	\$ 12,505	\$ 69,321	\$ 9,105	\$ —	\$ 174,436
Less: reconciling adjustments ⁽¹⁾⁽²⁾⁽³⁾	(9,889)	(2,499)	(922)	(7,884)	(2,047)	23,241	—
Net effective spread	53,062	18,055	11,583	61,437	7,058	23,241	—
Guarantee and commitment fees ⁽²⁾	17,976	797	1,599	360	—	(6,756)	13,976
Other income/(expense) ⁽³⁾	1,371	20	33	—	(913)	(2,747)	(2,236)
Non-interest income/(loss)	19,347	817	1,632	360	(913)	(9,503)	11,740
Provision for loan losses	(238)	—	—	—	—	—	(238)
Release of reserve for losses	(97)	—	—	—	—	—	(97)
Other non-interest expense	(19,026)	(5,309)	(3,062)	(8,011)	(14,411)	—	(49,819)
Non-interest expense ⁽⁴⁾	(19,123)	(5,309)	(3,062)	(8,011)	(14,411)	—	(49,916)
Core earnings before income taxes	53,048	13,563	10,153	53,786	(8,266)	13,738 ⁽⁵⁾	136,022
Income tax (expense)/benefit	(11,140)	(2,848)	(2,133)	(11,295)	2,361	(2,887)	(27,942)
Core earnings before preferred stock dividends	41,908	10,715	8,020	42,491	(5,905)	10,851 ⁽⁵⁾	108,080
Preferred stock dividends	—	—	—	—	(13,182)	—	(13,182)
Segment core earnings/(losses)	<u>\$ 41,908</u>	<u>\$ 10,715</u>	<u>\$ 8,020</u>	<u>\$ 42,491</u>	<u>\$ (19,087)</u>	<u>\$ 10,851 ⁽⁵⁾</u>	<u>\$ 94,898</u>
Total assets at carrying value	\$4,701,736	\$ 2,240,906	\$ 945,282	\$ 8,089,410	\$ 2,716,994	\$ —	\$ 18,694,328
Total on- and off-balance sheet program assets at principal balance	\$7,233,972	\$ 2,515,620	\$ 1,592,115	\$ 8,382,817	\$ —	\$ —	\$ 19,724,524

- (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 "(Losses)/gains on financial derivatives" on the consolidated financial statements, to determine the effective funding cost for each operating segment.
- (4) Includes directly attributable costs and an allocation of indirectly attributable costs based on employee headcount.
- (5) Net adjustments to reconcile to the corresponding income measures: core earnings before income taxes reconciled to income before income taxes; core earnings before preferred stock dividends 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, 2020.

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, 2020.

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, 2020 that have materially affected, or are reasonably likely to materially affect, Farmer Mac's internal control over financial reporting.

Item 9B. Other Information

- (a) None.
- (b) None.

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 5, 2021.

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 5, 2021.

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 5, 2021.

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 5, 2021.

PART IV

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 5, 2021.

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.

b. Exhibits

- | | | | |
|---|-----|---|--|
| * | 3.1 | — | Title VIII of the Farm Credit Act of 1971, as most recently amended on June 18, 2020 (Previously filed as Exhibit 3.1 to Form 10-Q filed August 10, 2020). |
| * | 3.2 | — | Amended and Restated By-Laws of the Registrant (Previously filed as Exhibit 3.1 to Form 8-K filed May 12, 2020). |
| * | 4.1 | — | Specimen Certificate for Farmer Mac Class A Voting Common Stock (Previously filed as Exhibit 4.1 to Form 10-Q filed May 15, 2003). |

- * 4.2 — [Specimen Certificate for Farmer Mac Class B Voting Common Stock \(Previously filed as Exhibit 4.2 to Form 10-Q filed May 15, 2003\).](#)
- * 4.3 — [Specimen Certificate for Farmer Mac Class C Non-Voting Common Stock \(Previously filed as Exhibit 4.3 to Form 10-Q filed May 15, 2003\).](#)
- * 4.5 — [Specimen Certificate for 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C \(Previously filed as Exhibit 4.6 to Form 10-Q filed August 11, 2014\).](#)
- * 4.5.1 — [Certificate of Designation of Terms and Conditions of 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C \(Previously filed as Exhibit 4.1 to Form 8-A filed June 20, 2014\).](#)
- * 4.6 — [Specimen Certificate for 5.700% Non-Cumulative Preferred Stock, Series D \(Previously filed as Exhibit 4.7 to Form 10-Q filed August 1, 2019\).](#)
- * 4.6.1 — [Certificate of Designation of Terms and Conditions of 5.700% Non-Cumulative Preferred Stock, Series D \(Previously filed as Exhibit 4.1 to Form 8-A filed May 13, 2019\).](#)
- * 4.7 — [Specimen Certificate for 5.750% Non-Cumulative Preferred Stock, Series E \(Previously filed as Exhibit 4.7 to Form 10-Q filed August 10, 2020\).](#)
- * 4.7.1 — [Certificate of Designation of Terms and Conditions of 5.750% Non-Cumulative Preferred Stock, Series E \(Previously filed as Exhibit 4.1 to Form 8-A filed May 20, 2020\).](#)
- * 4.8 — [Specimen Certificate for 5.250% Non-Cumulative Preferred Stock, Series F \(Previously filed as Exhibit 4.8 to Form 10-Q filed November 9, 2020\).](#)
- * 4.8.1 — [Certificate of Designation of Terms and Conditions of 5.250% Non-Cumulative Preferred Stock, Series F \(Previously filed as Exhibit 4.1 to Form 8-A filed August 20, 2020\).](#)
- * 4.9 — [Description of the Registrant's securities that are registered under Section 12 of the Securities Exchange Act of 1934 \(Previously filed as Exhibit 4.9 to Form 10-Q filed November 9, 2020\).](#)
- †* 10.1 — [Amended Employment Agreement dated as of December 23, 2020 between Bradford T. Nordholm and the Registrant \(Previously filed as Exhibit 10.1 to Form 8-K filed December 30, 2020\).](#)
- †* 10.2 — [Form of Performance-Based Restricted Stock Award Agreement for grants made to non-directors on or after March 3, 2020 \(Previously filed as Exhibit 10.1 to Form 8-K filed March 9, 2020\).](#)
- †* 10.3 — [Amended and Restated 2008 Omnibus Incentive Plan \(Previously filed as Exhibit 10.2 to Form 10-Q filed August 9, 2018\).](#)
- †* 10.3.1 — [Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made prior to April 1, 2012 \(Previously filed as Exhibit 10 to Form 8-K filed June 11, 2008\).](#)
- †* 10.3.2 — [Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made from April 1, 2012 to March 31, 2013 \(Previously filed as Exhibit 10.1 to Form 8-K filed April 6, 2012\).](#)
- †* 10.3.3 — [Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made from April 1, 2013 to March 31, 2015 \(Previously filed as Exhibit 10.1 to Form 8-K filed April 5, 2013\).](#)
- †* 10.3.4 — [Form of SARs Award Agreement under the 2008 Omnibus Incentive Plan for grants made on or after April 1, 2015 \(Previously filed as Exhibit 10.1 to Form 8-K filed on April 3, 2015\).](#)
- †* 10.3.5 — [Form of Restricted Stock Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made prior to April 1, 2012 \(Previously filed as Exhibit 10.1 to Form 8-K filed June 10, 2009\).](#)
- †* 10.3.6 — [Form of Restricted Stock Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made from April 1, 2012 to March 31, 2013 \(Previously filed as Exhibit 10.2 to Form 8-K filed April 6, 2012\).](#)
- †* 10.3.7 — [Form of Performance-Based Restricted Stock Award Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made from April 1, 2013 to March 31, 2015 \(Previously filed as Exhibit 10.2 to Form 8-K filed April 5, 2013\).](#)
- †* 10.3.8 — [Form of Performance-Based Restricted Stock Award Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made from April 1, 2015 to March 10, 2020 \(Previously filed as Exhibit 10.2 to Form 8-K filed April 3, 2015\).](#)
- †* 10.3.9 — [Form of Performance-Based Restricted Stock Agreement \(Officers\) under the 2008 Omnibus Form of Performance-Based Restricted Stock Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants](#)
- †* 10.3.10 — [Form of Time-Based Restricted Stock Award Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made from April 1, 2013 to March 31, 2015 \(Previously filed as Exhibit 10.2 to Form 8-K filed April 5, 2013\).](#)
- †* 10.3.11 — [Form of Time-Based Restricted Stock Award Agreement \(Officers\) under the 2008 Omnibus Incentive Plan for grants made on or after April 1, 2015 \(Previously filed as Exhibit 10.3 to Form 8-K filed on April 3, 2015\).](#)
- †* 10.3.12 — [Form of Restricted Stock Agreement \(Directors\) under the 2008 Omnibus Incentive Plan \(Previously filed as Exhibit 10.3 to Form 8-K filed April 6, 2012\).](#)
- †* 10.4 — [Federal Agricultural Mortgage Corporation Amended and Restated Executive Officer Severance Plan \(effective January 16, 2020\) \(Previously filed as Exhibit 10.1 to Form 8-K filed January 23, 2020\).](#)
- †* 10.5 — [Form of Participation Agreement to the Federal Agricultural Mortgage Corporation Amended and Restated Executive Officer Severance Plan \(effective January 16, 2020\) \(Previously filed as Exhibit 10.2 to Form 8-K filed January 23, 2020\).](#)

†*	10.6	—	Nonqualified Deferred Compensation Plan (effective May 1, 2017) (Previously filed as Exhibit 10.2 to Form 10-Q filed May 10, 2017)
†*	10.7	—	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)
†*	10.8	—	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, 2021.
*#	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).
*	10.16	—	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).
*	10.16.1	—	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).
*	10.16.2	—	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).
*	10.18	—	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).
*	10.19	—	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)
*	10.25	—	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).
*	10.26	—	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).
*	10.27	—	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).
*	10.28	—	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).
*	10.29	—	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).
*	10.30	—	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).
*	10.31	—	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).
*	10.32	—	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).
*	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-Q for the quarter ended September 30, 2020, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
**	31.2	—	Certification of Registrant's principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

**	32	—	Certification of Registrant's principal executive officer and principal financial officer relating to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
**	101.INS	—	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
**	101.SCH	—	Inline XBRL Taxonomy Extension Schema
**	101.CAL	—	Inline XBRL Taxonomy Extension Calculation
**	101.DEF	—	Inline XBRL Taxonomy Extension Definition
**	101.LAB	—	Inline XBRL Taxonomy Extension Label
**	101.PRE	—	Inline XBRL Taxonomy Extension Presentation
**	104	—	Cover Page Inline Interactive Data File - the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document included as Exhibit 101

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- * 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

<u>/s/ Bradford T. Nordholm</u>	<u>February 25, 2021</u>
By: Bradford T. Nordholm	Date
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.

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ LaJuana S. Wilcher</u> LaJuana S. Wilcher	Chair of the Board and Director	<u>February 25, 2021</u>
<u>/s/ Bradford T. Nordholm</u> Bradford T. Nordholm	President and Chief Executive Officer (Principal Executive Officer)	<u>February 25, 2021</u>
<u>/s/ Aparna Ramesh</u> Aparna Ramesh	Executive Vice President – Chief Financial Officer and Treasurer (Principal Financial Officer)	<u>February 25, 2021</u>
<u>/s/ Gregory N. Ramsey</u> Gregory N. Ramsey	Vice President – Controller (Principal Accounting Officer)	<u>February 25, 2021</u>

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Dennis L. Brack</u> Dennis L. Brack	Director	<u>February 25, 2021</u>
<u>/s/ Richard H. Davidson</u> Richard H. Davidson	Director	<u>February 25, 2021</u>
<u>/s/ Everett M. Dobrinski</u> Everett M. Dobrinski	Director	<u>February 25, 2021</u>
<u>/s/ James R. Engebretsen</u> James R. Engebretsen	Director	<u>February 25, 2021</u>
<u>/s/ Sara L. Faivre</u> Sara L. Faivre	Director	<u>February 25, 2021</u>
<u>/s/ Amy H. Gales</u> Amy H. Gales	Director	<u>February 25, 2021</u>
<u>/s/ Mitchell A. Johnson</u> Mitchell A. Johnson	Director	<u>February 25, 2021</u>
<u>/s/ Lowell L. Junkins</u> Lowell L. Junkins	Director	<u>February 25, 2021</u>
<u>/s/ Robert G. Sexton</u> Robert G. Sexton	Director	<u>February 25, 2021</u>
<u>/s/ Daniel L. Shaw</u> Daniel L. Shaw	Director	<u>February 25, 2021</u>
<u>/s/ Charles A. Stones</u> Charles A. Stones	Director	<u>February 25, 2021</u>
<u>/s/ Myles J. Watts</u> Myles J. Watts	Director	<u>February 25, 2021</u>
<u>/s/ Todd P. Ware</u> Todd P. Ware	Director	<u>February 25, 2021</u>

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