FEDERAL AGRICULTURAL MORTGAGE CORP
Form 10-K
March 08, 2018

As filed with the Securities and Exchange Commission on March 8, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

(Mark One)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2017

or

o 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

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, D.C.	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	Exchange on which registered
Class A voting common stock	New York Stock Exchange
Class C non-voting common stock	New York Stock Exchange
5.875% Non-Cumulative Preferred Stock, Series A	New York Stock Exchange
6.875% Non-Cumulative Preferred Stock, Series B	New York Stock Exchange
6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C	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 o No x
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 o No x

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 x No o

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

Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (17 C.F.R. §229.405) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

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

Large accelerated filer o Accelerated filer x

Non-accelerated filer o Smaller reporting company o

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

Yes o No x

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. o

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 $643,055,683 as of June 30, 2017 based upon the closing prices for the respective classes on June 30, 2017 reported by the New York Stock Exchange. For purposes of this information, the outstanding shares of Class C non-voting common stock owned by directors and executive officers of the registrant as of June 30, 2017 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 March 1, 2018, the registrant had outstanding 1,030,780 shares of Class A voting common stock, 500,301 shares of Class B voting common stock and 9,091,389 shares of Class C non-voting common stock.

DOCUMENTS INCORPORATED BY REFERENCE

The definitive proxy statement relating to the registrant's 2018 Annual Meeting of Stockholders (portions of which are incorporated by reference into Part III of this Annual Report on Form 10-K).

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FORWARD-LOOKING STATEMENTS

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

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

Management's expectations for Farmer Mac's future necessarily involve a number of assumptions and estimates and the evaluation of risks and uncertainties. Various factors or events, both known and unknown, could cause Farmer Mac's actual results to differ materially from the expectations as expressed or implied by the forward-looking statements, including the factors discussed under "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K for the fiscal period ended December 31, 2017, and uncertainties regarding:

- the availability to Farmer Mac of debt and equity financing and, if available, the reasonableness of rates and terms;
- legislative or regulatory developments that could affect Farmer Mac, its sources of business, or the agricultural or rural utilities industries;
- fluctuations in the fair value of assets held by Farmer Mac and its subsidiaries;
- the rate and direction of development of the secondary market for agricultural mortgage and rural utilities loans, including lender interest in Farmer Mac's products and the secondary market provided by Farmer Mac;
- the general rate of growth in agricultural mortgage and rural utilities indebtedness;
- the effect of economic conditions, including the effects of drought and other weather-related conditions and fluctuations in agricultural real estate values, on agricultural mortgage lending and borrower repayment capacity;
- the effect of any changes in Farmer Mac's executive leadership;
- developments in the financial markets, including possible investor, analyst, and rating agency reactions to events involving government-sponsored enterprises, including Farmer Mac;

- changes in the level and direction of interest rates, which could, among other things, affect the value of collateral securing Farmer Mac's agricultural mortgage loan assets;
- the degree to which Farmer Mac is exposed to basis risk, which results from fluctuations in Farmer Mac's borrowing costs relative to market indexes such as LIBOR; and
- volatility in commodity prices relative to costs of production and/or export demand for U.S. agricultural products.

In light of these potential risks and uncertainties, no undue reliance should be placed on any forward-looking statements expressed in this report. Furthermore, Farmer Mac undertakes no obligation to release publicly the results of revisions to any forward-looking statements that may be made to reflect new information or any future events or circumstances, except as otherwise mandated by the SEC. The information contained in this report is not necessarily indicative of future results.

PART I

Item 1. Business

GENERAL

The Federal Agricultural Mortgage Corporation ("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 otherwise offset some or all of the inherent risks of holding the assets. Farmer Mac's main secondary market activities are:

- 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.

Securities guaranteed by Farmer Mac may be retained by the seller of the underlying eligible 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 2008 – Title VIII of the Farm Credit Act of 1971 (12 U.S.C. §§ 2279aa et seq.), which is sometimes 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 otherwise would be performed directly by Farmer Mac. 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 (the "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 principal 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 in connection with outstanding guaranteed securities and LTSPCs.

Farmer Mac funds its purchases of eligible loans (including participation interests in eligible loans) and guaranteed securities primarily by issuing debt obligations of various maturities in the public capital markets. The proceeds of debt issuance are also used 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 dollar amount, issuer concentration, and credit quality. Those regulations can be found at 12 C.F.R. §§ 652.1-652.45 (the "Liquidity and Investment Regulations"). 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 become unfavorable. As of December 31, 2017, Farmer Mac had $1.7 billion of discount notes and $13.8 billion of medium-term notes outstanding. For more information about Farmer Mac's eligible loan assets and liquidity investment assets, 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 to rural borrowers. This secondary market is designed to increase the availability of 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. The secondary market provided by Farmer Mac functions as a bridge between the national capital markets and the agricultural and rural credit markets by attracting new capital for financing rural borrowers.

Farmer Mac's purchases of both eligible loans and obligations secured by eligible loans, as well as Farmer Mac's guaranteed securities sold to third party investors, increase lenders' liquidity and lending capacity and provide a continuous source of funding for lenders that extend credit to borrowers in rural America. Farmer Mac's issuance of LTSPCs for eligible loans held by lenders, as well as its issuance of guaranteed securities retained by lenders in exchange for the related securitized loans, result in lower regulatory capital requirements for the lenders and reduced borrower or commodity concentration exposure for some lenders, thereby expanding their lending capacity. By increasing the efficiency and competitiveness of rural finance, the secondary market provided by Farmer Mac has the potential to lower the interest rates paid on loans by rural borrowers.

The current economic and regulatory environment presents Farmer Mac with opportunities to market a mix of products to rural 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 rural lenders to identify their specific needs, with an emphasis on individual lender meetings, lender road shows, and face-to-face contact at state and national banking conferences. Farmer Mac seeks to maximize the use of technology to support these business development efforts.

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 eligible for the secondary market provided by Farmer Mac 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 made 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 types of eligible loans (comprising the assets eligible for the Institutional Credit line of business). As of December 31, 2017, the total outstanding business volume in all of Farmer Mac's lines of business was $19.0 billion.

Farm & Ranch

Under the Farm & Ranch line of business, Farmer Mac purchases eligible mortgage loans secured by first liens on agricultural real estate, which includes part-time farms and rural housing ("Farm & Ranch loans"). Farmer Mac also guarantees securities representing interests in pools of eligible Farm & Ranch loans ("Farm & Ranch Guaranteed Securities"). Additionally, Farmer Mac commits to purchase, subject to the terms of the applicable LTSPC agreement, eligible Farm & Ranch loans. To be eligible, loans must meet Farmer Mac's credit underwriting, collateral valuation, documentation, and other specified standards described in "Business—Farmer Mac's Lines of Business—Farm & Ranch." As of December 31, 2017, outstanding Farm & Ranch loans held by Farmer Mac and loans that either backed off-balance sheet Farm & Ranch Guaranteed Securities or were subject to LTSPCs totaled $6.9 billion.

USDA Guarantees

Under the USDA Guarantees line of business, Farmer Mac II LLC, a subsidiary of Farmer Mac, purchases the portions of certain agricultural, rural development, business and industry, and community facilities loans guaranteed by the USDA under the Consolidated Farm and Rural Development Act (7 U.S.C. §§ 1921 et seq.). Farmer Mac refers to these USDA-guaranteed portions of loans as "USDA Securities." Farmer Mac II LLC also purchases USDA Securities in exchange for issuing securities to third parties backed by those USDA Securities, which are then also guaranteed by Farmer Mac ("Farmer Mac Guaranteed USDA Securities"). As of December 31, 2017, outstanding USDA Securities and Farmer Mac Guaranteed USDA Securities totaled $2.4 billion, of which $284.2 million were Farmer Mac Guaranteed USDA Securities.

Rural Utilities

Under the Rural Utilities line of business, Farmer Mac's authorized activities are similar to those conducted under the Farm & Ranch line of business – purchases of, and guarantees of securities backed by, eligible rural utilities loans ("Rural Utilities loans"). To be eligible, Rural Utilities loans must meet Farmer Mac's credit underwriting and other specified standards described in "Business—Farmer Mac's Lines of Business—Rural Utilities." As of December 31, 2017, the aggregate outstanding principal balance of Rural Utilities loans held by Farmer Mac or that were subject to LTSPCs totaled $1.9 billion. There currently are no guaranteed securities issued under the Rural Utilities line of business.

Institutional Credit

Under the Institutional Credit line of business, Farmer Mac guarantees and purchases general obligations of lenders 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. AgVantage® is a registered trademark of Farmer Mac used to designate Farmer Mac's guarantees of securities related to these general obligations of lenders that are secured by pools of eligible loans and that comprise the Institutional Credit line of business. Farm & Ranch Guaranteed Securities, Farmer Mac Guaranteed USDA Securities, and AgVantage Securities are sometimes collectively referred to as "Farmer Mac Guaranteed Securities." For more information on the products currently offered under Farmer Mac's Institutional Credit line of business, see "Business—Farmer Mac's Lines of Business—Institutional Credit." As of December 31, 2017, outstanding securities held or guaranteed by Farmer Mac in its Institutional Credit line of business totaled $7.9 billion.

Competition

Farmer Mac is the only Congressionally-chartered corporation established to provide a secondary market for agricultural mortgage loans, rural utilities loans, and USDA Securities. However, Farmer Mac does face indirect competition from a variety of sources. These sources include other financial institutions and other types of financial entities that purchase, retain, securitize, or provide financing for the types of assets eligible for Farmer Mac's secondary market activities, including commercial and investment banks, insurance companies, other FCS institutions, and financial funds. Farmer Mac also competes indirectly with originators of eligible loans who 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 low-cost funding to its customers. This enables Farmer Mac to offer flexible financing options and products designed to meet the variety of needs faced by lending institutions related to capital requirements, liquidity, credit risk, and management of sector and geographic concentrations and borrower exposure limits. However, the relative competitiveness of the loan rates offered by Farmer Mac is affected by the ability of other lending institutions to subsidize their rates on the loan products with which Farmer Mac competes by price averaging with other types of loans or by accepting a lower return on equity. Farmer Mac's ability to develop business with lending institutions is also affected by changes in the levels of available capital and liquidity of those institutions, the existence of alternative sources of funding and credit enhancement for those institutions, the rate of growth in the market for eligible loans, and demand for Farmer Mac's products.

Farmer Mac's competitive position is also affected by the willingness of originators to offer eligible loans for sale in the secondary market, as well as the types and variety of products offered by Farmer Mac's competitors to meet the needs of Farmer Mac's customer base. Farmer Mac's limits on borrower exposure and loan size, as well as the types of loans that are eligible for Farmer Mac's lines of business, also affect Farmer Mac's competitive position. Farmer Mac's ability to obtain low-cost funding in the debt markets is essential to its ability to maintain its competitive 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 impact the price and volume at which Farmer Mac issues debt and, consequently, its ability to offer savings to its customers in the form of competitive products.

Capital and Corporate Governance

Farmer Mac's basic capital and corporate governance structure is prescribed in its charter. 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 common stock that are currently outstanding and their relation 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 may be owned by one holder to no more than 33 percent 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 percent 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 does not contain any restrictions on the maximum number or percentage of outstanding shares of Class B voting common stock that may be held by an eligible stockholder, 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. 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. These appointed directors serve at the pleasure of the President of the United States.

The ownership of Farmer Mac's two classes of voting common stock is currently concentrated in a small number of institutions. Approximately 44 percent of the Class A voting common stock is held by three financial institutions, with 31 percent held by one institution. Approximately 97 percent of the Class B voting common stock is held by five FCS institutions (two of which are related to each other through a parent-subsidiary relationship). Farmer Mac believes that the concentration in the Class A voting common stock is a by-product of trading activity in the stock over time and is not by design under the charter or any regulatory mandate. Farmer Mac believes that the concentration in such a small number of holders of Class B voting common stock is a by-product of the limited number of eligible holders of that stock and the structure of the FCS, the number of institutions of which has decreased over time as a result of mergers and consolidations.

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 5.875% Non-Cumulative Preferred Stock, Series A ("Series A Preferred Stock"), 6.875% Non-Cumulative Preferred Stock, Series B ("Series B Preferred Stock"), 6.000% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series C ("Series C 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 regarding Farmer Mac's common stock, and "Business—Financing—Equity Issuance" for more information on 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. Therefore, Farmer Mac seeks to fulfill its mission of serving the financing needs of rural America in a manner that is consistent with providing a return on the investment of its stockholders.

Farmer Mac's policy is to generally require 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 that governs 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. 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.

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. In addition, as a publicly-traded corporation, Farmer Mac is required to 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."

Capital

Farmer Mac's charter establishes three capital standards for Farmer Mac – minimum capital, critical capital, and risk-based capital. Farmer Mac is required to comply with the higher of the minimum capital requirement and the risk-based capital requirement. Also, in accordance with the FCA regulation on capital planning, Farmer Mac's board of directors maintains a policy for maintaining a sufficient level of Tier 1 capital and imposing restrictions on 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—Regulation—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."

Employees and Property

As of December 31, 2017, Farmer Mac employed 88 people, located primarily at its office at 1999 K Street, N.W., 4th Floor, Washington, D.C. 20006. Farmer Mac also maintains offices at (1) 9169 Northpark Drive, Johnston, Iowa 50322, (2) 5200 N. Palm Avenue, Suite 306, Fresno, California 93704, and (3) 1065 E. Winding Creek, Suite 200, Eagle, Idaho 83616. Farmer Mac's main telephone number is (202) 872-7700.

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 amendments, if any, to those filings, as soon as reasonably practicable after electronically filing those materials with, or furnishing those materials to, the SEC. Please note that 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.

FARMER MAC'S LINES OF BUSINESS

The following tables present the outstanding balances and new business volume under Farmer Mac's four lines of business – Farm & Ranch, USDA Guarantees, Rural Utilities, and Institutional Credit:

Lines of Business - Outstanding Business Volume

	December 31, 2017	December 31, 2016
	(in thousands)	
On-balance sheet:		
Farm & Ranch:		
Loans	$2,798,906	$2,381,488
Loans held in trusts:		
Beneficial interests owned by third party investors	1,399,827	1,132,966
USDA Guarantees:		
USDA Securities	2,068,017	1,954,800
Farmer Mac Guaranteed USDA Securities	29,980	35,599
Rural Utilities:		
Loans	1,076,291	999,512
Institutional Credit:		
AgVantage Securities(1)	7,593,322	6,004,472
Total on-balance sheet	$14,966,343	$12,508,837
Off-balance sheet:		
Farm & Ranch:		
LTSPCs	$2,335,342	$2,209,409
Guaranteed Securities	333,511	415,441
USDA Guarantees:		
Farmer Mac Guaranteed USDA Securities	254,217	103,976
Rural Utilities:		
LTSPCs(2)	806,342	878,598
Institutional Credit:		
AgVantage Securities(1)	11,556	983,214
Revolving floating rate AgVantage facility(3)	300,000	300,000
Total off-balance sheet	$4,040,968	$4,890,638
Total	$19,007,311	$17,399,475

(1) In April 2017, Farmer Mac purchased and retained $1.0 billion in AgVantage securities from MetLife. MetLife used the proceeds from Farmer Mac's purchase of $1.0 billion in AgVantage securities to refinance an AgVantage security of the same amount that matured in April 2017. Previously, $970.0 million of the maturing $1.0 billion AgVantage security had been sold to third parties and reported as off-balance sheet business volume in the Institutional Credit line of business.

(2) Includes $20.0 million related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee as of both December 31, 2017 and 2016.

(3) During 2017, $100.0 million of this facility was drawn and subsequently repaid. During 2016 this facility was not utilized. Farmer Mac receives a fixed fee based on the full dollar amount of the facility. If the counterparty draws on the facility, the amounts drawn will be in the form of AgVantage Securities, and Farmer Mac will earn interest income on those securities.

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New Business Volume – Farmer Mac Loan Purchases, Guarantees, and LTSPCs

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Farm & Ranch:			
Loans	$1,129,545	$966,023	$748,368
LTSPCs	554,743	399,095	427,795
USDA Guarantees:			
USDA Securities	369,759	375,203	363,621
Farmer Mac Guaranteed USDA Securities	161,925	106,054	13,314
Rural Utilities:			
Loans	137,341	50,491	108,337
LTSPCs	—	441,404	522,262
Institutional Credit:			
AgVantage Securities	2,383,912	2,098,852	743,158
Revolving floating rate AgVantage facility	—	—	300,000
Total purchases, guarantees, and LTSPCs	$4,737,225	$4,437,122	$3,226,855

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, (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 terms of the applicable LTSPC agreement. Farmer Mac is compensated for these activities through net effective spread on loans and Farmer Mac Guaranteed Securities held on balance sheet, guarantee fees earned on Farmer Mac Guaranteed Securities, and commitment fees earned on loans in LTSPCs.

Loan Eligibility

To be eligible for the Farm & Ranch line of business, a loan is required to:

- be secured by a fee simple mortgage or a long-term 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 Valuation (Appraisal) Standards" and "—Approved 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.

Farmer Mac's charter authorizes a maximum loan size (adjusted annually for inflation) for an eligible Farm & Ranch loan secured by more than 1,000 acres of agricultural real estate. That maximum loan size was $12.9 million as of December 31, 2017. Although the charter does not prescribe a maximum loan size or a total borrower exposure for an eligible Farm & Ranch loan secured by 1,000 acres or less of agricultural real estate, Farmer Mac currently limits the size of those loans to:

- $50.0 million in cumulative exposure to any one borrower or related borrowers for transactions involving direct exposure to credit risk on loans (e.g., loan purchases, LTSPC transactions, and non-AgVantage Farm & Ranch Guaranteed Securities, which are not backed by a general obligation of a lender); and
- $75.0 million in cumulative exposure through a single lender to any one borrower or related borrowers (with the amount of any direct borrower exposure described above not counting toward the $75.0 million limit) for AgVantage transactions, which involve the general obligation of a lender that is in turn secured by eligible loans, resulting in indirect exposure to credit risk on those loans. See "Business—Farmer Mac's Lines of Business—Institutional Credit."

Farmer Mac includes its part-time farm loans and rural housing loans in the Farm & Ranch line of business. Farmer Mac defines a "part-time farm" as agricultural real estate meeting the eligibility requirements described above on which is located a primary residence whose value is at least 30 percent of the property's aggregate value at origination. When analyzing borrower repayment capacity for part-time farm loans, Farmer Mac typically considers off-farm income as a more important factor than for Farm & Ranch loans that are not part-time farm loans. Part-time farm loans do not represent a significant part of Farmer Mac's business, with a total of $433.6 million of those loans in Farmer Mac's portfolio as of December 31, 2017.

For the rural housing portion of this line of business, an eligible loan must be secured by a mortgage on a one- to four-family, owner-occupied, moderately priced principal residence located in a community with a population of 2,500 or fewer. Farmer Mac uses the All-Transaction Housing Price Index ("HPI"), as published by the Federal Housing Finance Agency, to index the value of a moderately priced rural housing dwelling. Based on the most recent publication of the HPI, Farmer Mac increased the maximum purchase price or current appraised value for a dwelling that secures a rural housing loan (excluding the land to which the dwelling is affixed) to $300,000 effective December 18, 2017. The prior limit was $279,950. In addition to the dwelling itself, an eligible rural housing loan can be secured by land associated with the dwelling having an appraised value of no more than 50 percent of the total appraised value of the combined property. Rural housing loans do not represent a significant part of Farmer Mac's business, with a total of $6.0 million of those loans in Farmer Mac's portfolio as of December 31, 2017.

Summary of Farm & Ranch Transactions

During the year ended December 31, 2017, Farmer Mac added a total of $1.7 billion of new business volume under the Farm & Ranch line of business. That new business volume was partially offset by repayments on existing assets (principal paydowns and maturities) during the year, resulting in $6.9 billion of total outstanding business volume in this line of business as of December 31, 2017, compared to $6.1 billion as of December 31, 2016. As of December 31, 2017, Farmer Mac had direct credit exposure on 12,455 loans in the Farm & Ranch line of business across 48 states.

During 2017, Farmer Mac purchased eligible loans from 174 entities (the top ten institutions generated 59 percent of the purchase volume) and placed loans under LTSPCs with 25 entities in the Farm & Ranch line of business. During 2016, Farmer Mac purchased eligible loans from 169 entities (the top ten institutions generated 59 percent of the purchase volume) and placed loans under LTSPCs with 25 entities. During 2015, Farmer Mac purchased eligible loans from 163 entities (the top ten institutions generated 55 percent of the purchase volume) and placed loans under LTSPCs with 28 entities.

The following table summarizes loans purchased or newly placed under LTSPCs under the Farm & Ranch line of business for each of the years ended December 31, 2017, 2016, and 2015:

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Loans	$1,129,545	$966,023	$748,368
LTSPCs	554,743	399,095	427,795
Total	$1,684,288	$1,365,118	$1,176,163

The following table presents the outstanding balances of Farm & Ranch loans held and loans underlying Farm & Ranch Guaranteed Securities and LTSPCs as of the dates indicated:

	As of December 31,	
	2017	2016
	(in thousands)	
On-balance sheet:		
Loans	$2,798,906	$2,381,488
Loans held in trusts:		
Beneficial interests owned by third party investors	1,399,827	1,132,966
Total on-balance sheet	$4,198,733	$3,514,454
Off-balance sheet:		
LTSPCs	$2,335,342	$2,209,409
Guaranteed Securities	333,511	415,441
Total off-balance sheet	$2,668,853	$2,624,850
Total	$6,867,586	$6,139,304

Loan Purchases

Farmer Mac offers loan products designed to increase the secondary market liquidity of agricultural real estate mortgage loans and the lending capacity of financial institutions that originate those loans. Farmer Mac enters into mandatory delivery commitments to purchase loans and offers rates for those commitments daily. Farmer Mac also purchases portfolios of newly originated and seasoned, current loans on a negotiated basis. Farmer Mac purchases both fixed and adjustable rate loans that have a variety of maturities and often include balloon payments. Of the $1.1 billion of loans purchased in the Farm & Ranch line of business during 2017, 70 percent included balloon payments. By comparison, of the $1.0

billion of loans purchased in the Farm & Ranch line of business during 2016, 60 percent included balloon payments.

Farmer Mac's new and expanded business relationships with larger regional and national lenders has led to an increase in Farmer Mac's loan purchase volume and the average transaction size within the Farm & Ranch line of business. The average unpaid principal balance of loans purchased in the Farm & Ranch line of business was $781,000 in 2017, compared to $665,000 during 2016 and $666,000 during 2015. As of December 31, 2017 and 2016, the average unpaid principal balance of loans outstanding in the Farm & Ranch line of business was $642,000 and $611,000, respectively.

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. LTSPCs and securitization trusts where Farmer Mac is not the primary beneficiary result in the creation of off-balance sheet obligations for Farmer Mac. Historically, the only securitization trusts where Farmer Mac has not determined itself to be the primary beneficiary have been trusts containing 100 percent participation interests in loans that comprised an LTSPC pool prior to securitization, and in which the participating institution is not a related party to Farmer Mac. In performing Farmer Mac's purchase and guarantee obligations related to LTSPCs and Farm & Ranch Guaranteed Securities, payments made on the underlying loans or participation interests and liquidation of the related collateral (in the event of default under the terms of those assets) are intended to protect Farmer Mac against losses.

Both LTSPC and Farm & Ranch Guaranteed Securities transactions permit a lender to nominate from its portfolio an identified pool of loans, subject to review by Farmer Mac for conformity with its eligibility standards for Farm & Ranch loans. In Farm & Ranch Guaranteed Securities and LTSPC transactions, the lender effectively transfers the credit risk on those eligible loans because, through Farmer Mac's guarantee or commitment to purchase, Farmer Mac assumes the ultimate credit risk of borrower defaults on the underlying loans. This type of risk transfer reduces a lender's credit and concentration risk exposures and, consequently, its regulatory capital requirements and loss reserve requirements. The loans and participation interests underlying LTSPCs and Farm & Ranch Guaranteed Securities may include those with payment, maturity, and interest rate characteristics that differ from the loan products that Farmer Mac offers for purchase on a daily basis, but all are subject to the applicable standards described in "—Underwriting and Collateral Valuation (Appraisal) Standards." See also "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

LTSPCs. An LTSPC commits Farmer Mac, subject to the terms of the applicable LTSPC agreement, to a future purchase of one or more loans from an identified pool of eligible loans that met Farmer Mac's standards at the time the transaction was entered into and Farmer Mac assumed the credit risk on the loans. The LTSPC structure, which is not a guarantee of loans or securities, permits the lender to retain the loan pool in its portfolio until such time, if ever, as the lender elects to deliver some or all of the loans in the pool to Farmer Mac for purchase under the terms of the LTSPC agreement. As consideration for its assumption of the credit risk on loans underlying an LTSPC, Farmer Mac receives commitment fees payable monthly in arrears. Farmer Mac offers different options under LTSPC arrangements to meet the credit and liquidity needs of its counterparties. Some LTSPCs provide that the underlying loans can be converted into Farm & Ranch Guaranteed Securities at the option of the counterparty with no conversion fee paid to Farmer Mac. Some LTSPCs contain risk sharing arrangements 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. As of December 31, 2017 and 2016, approximately 7.2 percent and 9.3 percent, respectively, of total LTSPCs and Farm & Ranch Guaranteed Securities, including those consolidated as loans on Farmer Mac's balance sheet, contained risk sharing arrangements.

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 Farm & Ranch Guaranteed Securities (if the loans are not delinquent), in accordance with the terms of the applicable agreement.

In 2017, Farmer Mac entered into $554.7 million of LTSPCs, compared to $399.1 million in 2016, in the Farm & Ranch line of business. In 2017, LTSPCs were the preferred credit enhancement alternative for new credit protection transactions, and they continue to be a significant portion of the Farm & Ranch line of business. During 2017 and 2016, there were no conversions of LTSPCs into Farm & Ranch Guaranteed Securities. As of December 31, 2017, the aggregate principal balance of the loans underlying LTSPCs in Farmer Mac's Farm & Ranch line of business was $2.3 billion. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Business Volume."

Farm & Ranch Guaranteed Securities. 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 guarantees the timely payment of interest and principal on these securities, which are either retained by Farmer Mac or sold to third parties. For those securities sold to third parties, the eligible loans or participation interests are often acquired from lenders in exchange for the Farm & Ranch Guaranteed Securities backed by those assets. 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 percent) 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, including as a result of conversions from LTSPCs. 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.

Of the $19.0 billion outstanding principal balance of assets included in Farmer Mac's four lines of business as of December 31, 2017, $1.7 billion were in the form of Farm & Ranch Guaranteed Securities created from the deposit of eligible loan assets into securitization trusts that issue "pass-through" certificates representing interests in the underlying assets. This type of securitization structure may involve the deposit of either whole loans or loan participation interests into the trusts.

As of December 31, 2017, Farmer Mac had outstanding Farm & Ranch Guaranteed Securities of $1.4 billion that represent interests in whole loans and $333.5 million that represent interests in loan participations as a result of conversions from LTSPCs. Both types of transactions involve the deposit of eligible assets into securitization trusts along with all of the rights under related agreements that provide for, among other things, remedies for any breaches of representations and warranties made by the lender and the servicing of the underlying assets. In each of these transactions, the related trust has issued securities that represent interests in the assets of the trust and that Farmer Mac guarantees as to the timely payment of principal and interest.

For Farm & Ranch Guaranteed Securities that result from the conversion of LTSPCs, a 100 percent participation in the cash flows associated with each loan formerly subject to the LTSPC, rather than the whole loan, is deposited into the securitization trust. These transactions involve loan participations for reasons unique to the counterparties that have elected these conversions, all of whom are members of the FCS. Loans made by FCS institutions to farmers and ranchers have, by statute, specified loan and collateral actions to which borrowers are entitled, known as "borrower rights." Farmer Mac does not have the ability to offer all of the prescribed borrower rights without the involvement of another FCS counterparty. In recognition of this and Farmer Mac's desire not to disrupt the borrower's relationship with the originating FCS lender and expectations about how the loan will be serviced, Farmer Mac developed the participation interest securitization structure for FCS loans with borrower rights. The deposit of participation interests into securitization trusts permits the legal ownership of the related loan to remain with the FCS counterparty, together with the servicing and borrower rights related to the loan. Farmer Mac, in its role as trustee, generally has the right to give or withhold consent to the exercise of remedies as to each related loan. The FCS servicers in these transactions are also the holders of the related Farm & Ranch Guaranteed Securities, which have the same economic benefit to the holder from a cash flow perspective as a securitization of whole loans. See "—Servicing" for more information about the servicing of loans underlying Farm & Ranch Guaranteed Securities.

For the years ended December 31, 2017 and 2016, Farmer Mac sold Farm & Ranch Guaranteed Securities in the amounts of $363.5 million and $511.4 million, respectively. No gains or losses resulted from these sales in either 2017 or 2016. During 2017 and 2016, there were no conversions of LTSPCs into Farm & Ranch Guaranteed Securities. As of December 31, 2017, the aggregate principal balance of the loans that backed Farmer Mac's Farm & Ranch Guaranteed Securities, which may or may not be consolidated on-balance sheet depending on the primary beneficiary determination described above, was $1.7 billion. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Business Volume."

Underwriting and Collateral Valuation (Appraisal) Standards

As required by Farmer Mac's charter, Farmer Mac has established underwriting, security appraisal, and repayment standards for eligible loans taking into account 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") in excess of 80 percent 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, agricultural mortgage loans on which Farmer Mac assumes direct credit exposure, such as loans purchased or underlying LTSPCs or Farm & Ranch Guaranteed Securities, are also typically required to meet more specific underwriting standards established by Farmer Mac, as described below.

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.

Underwriting. To manage Farmer Mac's credit risk and to provide guidance for the management, administration, and conduct of underwriting to all participating and potential Farm & Ranch lenders, Farmer Mac has adopted credit underwriting standards that vary by loan type and loan product. Farmer Mac developed these standards based on industry practices for similar mortgage loans and designed them to assess the creditworthiness of the borrower, as well as the risk to Farmer Mac for having assumed the credit risk on those loans. Furthermore, Farmer Mac requires Farm & Ranch lenders to make representations and warranties regarding the conformity of eligible mortgage loans to these standards and any other requirements that Farmer Mac may impose from time to time. Farmer Mac has the ability to require repurchase of the loan upon a material breach of these representations and warranties. The underwriting standards described in this section apply to Farmer Mac's Farm & Ranch loans other than part-time farm and rural housing loans, whose underwriting standards more closely resemble generally-accepted industry standards for residential lending, including fully verified repayment capacity and use of credit scores.

Farmer Mac's credit underwriting standards for Farm & Ranch loans generally require that the original LTV of any loan not exceed 70 percent. Farmer Mac may require lower original LTV thresholds for some categories of loans, such as loans secured by property located in certain geographic regions, unseasoned loans, single purpose facility loans, and loans exceeding certain dollar thresholds. Farmer Mac, from time to time, allows higher LTV thresholds for loans secured by swine and poultry facilities that are supported by a strong production contract with a reputable processor (up to 75 percent original LTV) and rural housing and part-time farm loans secured primarily by owner-occupied residences (up to 80 percent original LTV). The original LTV of a loan is calculated by dividing the loan's principal balance at the time of guarantee, purchase, or commitment by the lower of the appraised value or the purchase price at the date of loan origination or, when available, updated appraised value at the time of guarantee, purchase, or commitment.

In the case of newly-originated Farm & Ranch loans, Farmer Mac's credit underwriting standards include:

- pro forma total debt service coverage ratio supported by historical profitability, including farm and non-farm income, of 1.25 or higher;
- pro forma debt-to-asset ratio of 50 percent or less; and
- pro forma ratio of current assets to current liabilities of 1.25 or higher.

Farmer Mac evaluates these standards on an ongoing basis based on current and anticipated market conditions, and adjusts these standards as Farmer Mac determines is necessary. Farmer Mac also uses an interest rate shock test for adjustable rate Farm & Ranch loans with initial reset periods of less than five years.

Farmer Mac includes its facility loans, such as dairy and processing facilities, in its Farm & Ranch line of business. Farmer Mac defines a facility loan as a loan secured by agricultural real estate with building improvements (other than a residence) that contribute more than 60 percent of the appraised value of the property. The credit underwriting standards for facility loans are the same as for other Farm & Ranch loans except that certain facility loans are required to have a more stringent total debt service coverage ratio, including farm and non-farm income, of 1.35 or higher.

Loans not exceeding $1.5 million that are secured by eligible collateral with original LTVs not greater than 55 percent made to borrowers with high credit scores and adequate financial resources may be accepted without further underwriting tests being applied.

Farmer Mac's underwriting standards provide for the acceptance of a loan that, in the judgment of the Farmer Mac underwriter, is a sound loan with a high probability of repayment in accordance with its terms even though the loan does not meet one or more of the underwriting ratios usually required for loans of that type. In those cases, Farmer Mac permits approval of a loan if it:

- has compensating strengths, which means it exceeds minimum requirements for one or more of the underwriting standards to a degree that compensates for noncompliance with one or more other standards; and
- is made to a producer of particular agricultural commodities or products in a segment of agriculture in which such compensating strengths are typical of the financial condition of sound borrowers in that segment.

Although underwriting approvals may be made based on compensating strengths, no loan will be approved if it does not at least meet all of the minimum standards prescribed by Farmer Mac's charter.

Farmer Mac's use of compensating strengths is not intended to provide a basis for waiving or lessening the requirement that eligible mortgage loans under the Farm & Ranch line of business be of consistently high quality. Loans approved on the basis of compensating strengths are fully underwritten and have experienced lower cumulative rates of loss following default compared to loans that were approved on the basis of conformance with all applicable underwriting ratios.

In the case of a seasoned loan, Farmer Mac considers sustained historical performance to be a reliable alternative indicator of a borrower's ability to pay the loan according to its terms. In the Farm & Ranch line of business, a seasoned loan generally will be deemed an eligible loan if:

- it has been outstanding for at least five years and has an LTV of 60 percent or less;
- there have been no payments more than 30 days past due during the three-year period immediately before the date the loan is either purchased by Farmer Mac or made subject to an LTSPC; and
- there have been no material restructurings or modifications for credit reasons during the previous five years.

A seasoned loan that has been outstanding for more than one year but less than five years must substantially comply with the applicable underwriting standards for newly originated loans as of the date the loan was originated by the lender.

Farmer Mac performs due diligence before purchasing, guaranteeing securities backed by, or committing to purchase seasoned loans, including:

- evaluating loan database information to determine conformity to the criteria set forth in the preceding paragraphs;
- confirming that loan file data conform to database information;
- validating supporting credit information in the loan files; and
- reviewing loan documentation and collateral valuations.

Farmer Mac performs these and other due diligence procedures using methods that consider the size, age, leverage, industry sector, and nature of the collateral for the loans.

Required documentation for all loans in the Farm & Ranch line of business includes a first lien mortgage or deed of trust, a written promissory note, and assurance of Farmer Mac's lien position through either a title insurance policy or title opinion from an experienced real estate attorney in any geographic area where title insurance is not the industry practice.

As Farmer Mac develops new credit products, it establishes underwriting guidelines for them. Those guidelines result in industry-specific measures that meet or exceed the minimum underwriting standards contained in Farmer Mac's charter and provide Farmer Mac with the flexibility to deliver the benefits of a secondary market to farmers, ranchers, and rural homeowners in diverse sectors of the rural economy. Farmer Mac does not require that each loan's compliance with the applicable underwriting standards be re-evaluated after Farmer Mac purchases the loan or approves it for inclusion in a pool that backs Farm & Ranch Guaranteed Securities or an LTSPC pool.

Collateral Valuation Standards. Farmer Mac has adopted collateral valuation standards for newly originated loans purchased or underlying Farm & Ranch Guaranteed Securities or LTSPCs. Those standards require, among other things, that a current valuation be performed, or have been performed within the preceding 12 months, independently of the credit decision-making process. Farmer Mac generally requires appraisals to conform to the Uniform Standards of Professional Appraisal Practice ("USPAP") promulgated by the Appraisal Standards Board.

Farmer Mac's collateral valuation standards require that the valuation function be conducted or administered by an individual who meets specific qualification and competence criteria and who:

- is not associated, except by the engagement for the collateral valuation, with the credit underwriters making the loan decision, though the appraiser or evaluator and the credit underwriter may be directly or indirectly employed by a common employer;

- receives no financial or professional benefit of any kind by virtue of the report content, valuation, or credit decision made, or based on the valuation report; and
- has no present or contemplated future direct or indirect interest in the property serving or to serve as collateral.

Farmer Mac's collateral valuation standards require uniform reporting of reliable and credible opinions of the market value based on analyses of comparable property sales, including consideration of the property's income-producing capacity and, if relevant, the market's response to the cost of improvements, as well as information regarding market trends. For seasoned loans, Farmer Mac obtains collateral valuation updates as considered necessary in its assessment of collateral risk determined in the due diligence process. If a current or updated collateral valuation is required for a seasoned loan, the collateral valuation standards described above would apply.

Portfolio Diversification

It is Farmer Mac's policy to diversify its portfolio of loans held and loans underlying Farm & Ranch Guaranteed Securities and LTSPCs, both geographically and by agricultural commodity/product. Farmer Mac directs its marketing efforts toward agricultural lenders throughout the nation to achieve commodity/product and geographic diversification in its exposure to credit risk. Farmer Mac evaluates its credit exposure in particular geographic regions and commodities/products relative to the total principal amount of all outstanding loans held and loans underlying LTSPCs and Farm & Ranch Guaranteed Securities.

Farmer Mac is not obligated to assume credit risk on every loan that meets its underwriting and collateral valuation standards submitted by an eligible participant. Farmer Mac may consider other factors, such as its overall portfolio diversification, commodity and farming forecasts, and risk management objectives, in deciding whether or not to accept a loan as part of the Farm & Ranch line of business. For example, if industry forecasts indicate possible weakness in a geographic area or agricultural commodity or product, Farmer Mac may decide not to purchase or commit to purchase an affected loan as part of managing Farmer Mac's overall portfolio exposure to areas of possible heightened risk exposure. Because Farmer Mac effectively assumes the credit risk on all loans underlying an LTSPC, Farmer Mac's commodity/product and geographic diversification disclosures reflect all loans underlying LTSPCs and any loans that have been purchased out of LTSPC pools. For information about the diversification of Farmer Mac's existing portfolio, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees" and Note 8 to the consolidated financial statements.

Approved Lenders

As of December 31, 2017, Farmer Mac had 680 approved lenders eligible to participate in Farmer Mac's Farm & Ranch line of business, ranging from single-office to multi-branch institutions, spanning community banks, FCS institutions, mortgage companies, mortgage funds, commercial banks, and insurance companies, compared to 638 eligible approved lenders as of December 31, 2016. In addition to participating directly in the Farm & Ranch line of business, some of the approved lenders facilitate indirect participation by other lenders by managing correspondent networks of lenders from which the approved lenders purchase loans to sell to Farmer Mac. As of December 31, 2017, of the 680 approved lenders eligible to participate, 196 lenders had been active participants in the Farm & Ranch line of business during the previous 12 months by either selling at least one loan to Farmer Mac or entering into an LTSPC transaction with Farmer Mac, as compared to 184 out of 638 approved lenders as of December 31, 2016.

To be considered for approval as a participant in the Farm & Ranch line of business, a lender must meet criteria that Farmer Mac establishes. Those criteria include the following requirements:

- 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;
- maintain a minimum adjusted net worth; and
- enter into a Seller/Servicer Agreement, which requires compliance with the terms of the Farmer Mac Seller/Servicer Guide, including providing representations and warranties regarding the eligibility of the loans and accuracy of loan data provided to Farmer Mac.

Servicing

Farmer Mac generally does not directly service the loans included in the Farm & Ranch line of business, although in some cases Farmer Mac may assume direct servicing for defaulted loans. Farmer Mac serves in the role of master servicer for Farm & Ranch loans held by Farmer Mac and for whole loans underlying Farm & Ranch Guaranteed Securities. In that capacity, Farmer Mac contracts with other institutions, known as central servicers, to undertake the majority of the servicing responsibilities for the loans in accordance with Farmer Mac's specified servicing requirements. For these loans, the central servicer may or may not be the same entity as the lender that sold the loans to Farmer Mac, and the originating lenders may retain some direct borrower contacts, referred to as "field servicing" functions. Field servicers may enter into contracts with Farmer Mac's central servicers that specify the retained servicing functions.

Loans related to the participation interests underlying Farm & Ranch Guaranteed Securities that result from the conversion of LTSPCs are serviced for the benefit of Farmer Mac, as trustee and guarantor, by the FCS institution that participated the loans to Farmer Mac. The servicer of those loans is usually also the holder of the related Farm & Ranch Guaranteed Securities. In those transactions, the FCS servicer is required to service the loans related to the securitized participation interests in a commercially reasonable manner and in substantial compliance with Farmer Mac's servicing requirements for Farm & Ranch loans. Those servicers are also required to give effect to all statutory borrower rights applicable to the loans and have shared power with Farmer Mac for some servicing actions to ensure this. The loans related to the Farm & Ranch Guaranteed Securities that result from the conversion of loans formerly subject to an LTSPC are the only loans included in the Farm & Ranch line of business that are subject to a shared power servicing provision.

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

In summary, 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 the assets underlying Farm & Ranch Guaranteed Securities resulting from LTSPC conversions to accommodate the borrower rights regime unique to loans originated by FCS institutions.

USDA Guarantees

General

Farmer Mac initiated its USDA Guarantees line of business in 1991 after Congress revised Farmer Mac's charter to provide 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 and issue Farmer Mac Guaranteed Securities backed by USDA Securities.

Since January 2010, nearly all purchases of USDA Securities have been made by 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 operates only that part of the business that involves the issuance of Farmer Mac Guaranteed USDA Securities to investors other than Farmer Mac or Farmer Mac II LLC. Although Farmer Mac II LLC may issue securities in these transactions, 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.

Summary of USDA Guarantees Transactions

Farmer Mac guarantees the timely payment of principal and interest on Farmer Mac Guaranteed USDA Securities backed by USDA Securities. Farmer Mac does not guarantee the repayment of the USDA Securities themselves. During the year ended December 31, 2017, Farmer Mac II LLC purchased approximately $531.7 million of USDA Securities, of which $375.7 million were retained and $156.0 million were securitized and sold to lenders or other investors in the form of Farmer Mac Guaranteed USDA Securities. During the year ended December 31, 2016, Farmer Mac II LLC purchased approximately $481.3 million of USDA Securities, of which $383.3 million were retained and $98.0 million were securitized and sold to lenders or other investors in the form of Farmer Mac Guaranteed USDA Securities. During the year ended December 31, 2015, Farmer Mac II LLC purchased approximately $376.9 million of USDA Securities, all of which were retained. In addition to the purchases of USDA Securities made by Farmer Mac II LLC in 2017, Farmer Mac purchased for its liquidity investment portfolio $45.0 million of USDA Securities that were not eligible for Farmer Mac's USDA Guarantees line of business because the related USDA guarantees were issued under authority not related to the Consolidated Farm and Rural Development Act. Farmer Mac did not purchase any USDA Securities in 2016 or 2015. During 2017, 2016, and 2015, Farmer Mac and Farmer Mac II LLC conducted USDA Guarantees transactions with 222, 222, and 209 entities, respectively.

As of December 31, 2017 and 2016, $2.4 billion and $2.1 billion, respectively, of Farmer Mac Guaranteed USDA Securities and USDA Securities were outstanding. The following table presents activity in the USDA Guarantees line of business for each of the years indicated:

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Purchased and retained	$ 375,715	$ 383,303	$ 376,935
Purchased and sold	155,969	97,954	—
Total	$ 531,684	$ 481,257	$ 376,935

The following table presents the outstanding balance of USDA Securities and Farmer Mac Guaranteed USDA Securities as of the dates indicated:

	As of December 31,	
	2017	2016
	(in thousands)	
On-balance sheet:		
USDA Securities	$ 2,068,017	$ 1,954,800
Farmer Mac Guaranteed USDA Securities	29,980	35,599
Off-balance sheet:		
Farmer Mac Guaranteed USDA Securities	254,217	103,976
Total	$ 2,352,214	$ 2,094,375

As of December 31, 2017, Farmer Mac had experienced no other-than-temporary impairment on any of its Farmer Mac Guaranteed USDA Securities or USDA Securities.

United States Department of Agriculture Guaranteed Loan Programs

The USDA, acting through its agencies, currently administers the federal rural credit programs first developed in the mid-1930s. The USDA makes direct loans and guarantees portions of loans made and serviced by USDA-qualified lenders for various purposes. The USDA's guarantee is supported by the full faith and credit of the United States. The USDA guarantees up to 95 percent of the principal amount of guaranteed loans. Through its USDA Guarantees line of business, Farmer Mac is one of several competing purchasers of USDA Securities representing the USDA-guaranteed portions of farm ownership loans, farm operating loans, business and industry loans, community facilities loans, and other loans. The guaranteed portions of these loans are fully guaranteed as to principal and interest by the USDA.

USDA Guarantees. Each USDA guarantee is a full faith and credit obligation of the United States and becomes enforceable if a lender fails to repurchase the portion of the loan that is guaranteed by the USDA from its holder within 30 days after written demand from the holder when:

- 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 of the loan; or
- the lender has failed to remit to the holder the payment made by the borrower on the USDA-guaranteed portion of the loan or any related loan subsidy within 30 days after the lender's receipt of the payment.

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If the lender does not repurchase the USDA-guaranteed portion as provided above, the USDA is required to purchase the unpaid principal balance of the USDA-guaranteed portion together with accrued interest (including any loan subsidy) to the date of purchase, less the lender's servicing fee, within 60 days after written demand upon the USDA by the holder. While the USDA guarantee will not cover the note interest to the holder on USDA-guaranteed portions accruing after 90 days from the date of the original demand letter of the holder to the lender requesting repurchase, Farmer Mac has established procedures to require prompt demand on the USDA to purchase USDA-guaranteed portions that have not been repurchased by the lender.

If, in the opinion of the lender (with the concurrence of the USDA) or in the opinion of the USDA, repurchase of the USDA-guaranteed portion is necessary to service the related guaranteed loan adequately, the holder is required to sell the USDA-guaranteed portion to the lender or USDA for an amount equal to the unpaid principal balance and accrued interest on such USDA-guaranteed portion less the lender's servicing fee. Federal regulations prohibit the lender from repurchasing USDA-guaranteed portions for arbitrage purposes.

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. During both 2017 and 2016, 222 lenders, consisting mostly of community and regional banks, sold USDA Securities to Farmer Mac.

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

General

Under its charter, Farmer Mac is permitted to purchase, and guarantee securities backed by, rural electric and telephone loans made by lenders organized as cooperatives to borrowers who 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. None of Farmer Mac's business to date under the Rural Utilities line of business has involved telecommunications loans. 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 the issuance of LTSPCs for pools of eligible rural utilities loans. Farmer Mac began issuing LTSPCs for pools of eligible rural utilities loans in 2015.

Summary of Rural Utilities Transactions

During the year ended December 31, 2017, Farmer Mac added $137.3 million of new Rural Utilities business, compared to $491.9 million and $630.6 million for the years ended December 31, 2016 and 2015, respectively. As of both December 31, 2017 and 2016, the aggregate outstanding principal balance of Rural Utilities loans held and underlying LTSPCs was $1.9 billion.

The following table summarizes new Rural Utilities business activity for each of the years ended December 31, 2017, 2016, and 2015:

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Loans	$ 137,341	$ 50,491	$ 108,337
LTSPCs	—	441,404	522,262
Total	$ 137,341	$ 491,895	$ 630,599

The following table presents the outstanding balances of Rural Utilities loans held as of the dates indicated:

	As of December 31,	
	2017	2016
	(in thousands)	
On-balance sheet:		
Loans	$ 1,076,291	$ 999,512
Off-balance sheet:		
LTSPCs[(1)]	806,342	878,598
Total	$ 1,882,633	$ 1,878,110

(1) Includes $20.0 million related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee as of both December 31, 2017 and 2016, respectively.

Loan Eligibility

To be eligible for Farmer Mac's Rural Utilities line of business, a rural utilities loan (or an interest in such a loan) is required to:

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

Underwriting

Farmer Mac's charter does not specify minimum underwriting criteria for eligible rural utilities loans under the Rural Utilities line of business. 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, based on whether loans are made to electric distribution cooperatives or electric generation and transmission ("G&T") cooperatives. 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 filed with RUS and the Federal Energy Regulatory Commission to confirm that loans meet Farmer Mac's underwriting standards for rural utilities loans. Furthermore, Farmer Mac requires sellers of rural utilities loans to make representations and warranties regarding the conformity of eligible loans to these standards

and any other requirements that Farmer Mac may impose from time to time. Farmer Mac has the ability to require repurchase of the loan upon a material breach of these representations and warranties.

In addition to the loan eligibility criteria described above for rural utilities loans, Farmer Mac has developed different underwriting standards for rural utilities loans that depend on whether the borrower is an electric distribution cooperative or a G&T cooperative. Farmer Mac's credit underwriting standards for all rural utilities loans on which it assumes direct credit exposure (i.e., with no general obligation of a lender involved in the transaction) require:

- each borrower to demonstrate sufficient cash flow to adequately service the loan; and
- each borrower's leverage position to be adequate based on industry standards.

In the case of a newly-originated loan to a distribution cooperative on which Farmer Mac assumes direct credit exposure, the borrower typically must, among other criteria set forth in Farmer Mac's credit underwriting standards, meet the following ratios (based on the average of the most recent three years):

- the ratio of long-term debt to "net utility plant" does not exceed 90 percent;
- the modified debt service coverage ratio (the cooperative's available cash plus patronage capital credits allocated to the cooperative, relative to debt expense) equals or exceeds 1.35; and
- the ratio of equity to total assets equals or exceeds 20 percent.

The "net utility plant" means the real and tangible personal property of a rural utilities borrower constituting the long-term assets of property, plant, and equipment (PPE), less depreciation, computed in accordance with applicable accounting requirements.

In the case of a newly-originated loan to a G&T cooperative on which Farmer Mac assumes direct credit exposure, the borrower typically must, among other criteria set forth in Farmer Mac's credit underwriting standards, meet the following ratios (based on the average of the most recent three years):

- the equity to total assets ratio equals or exceeds 10 percent;
- the modified debt service coverage ratio equals or exceeds 1.10;
- the debt to EBITDA (earnings before interest, taxes, depreciation, and amortization) ratio does not exceed 12; and
- the aggregate members' equity to total capitalization ratio equals or exceeds 25 percent.

The due diligence Farmer Mac performs before purchasing, or guaranteeing securities backed by, rural utilities loans includes:

- evaluating loan database information to determine conformity to Farmer Mac's underwriting standards;
- confirming that loan file data conforms to database information;
- validating supporting credit information in the loan files; and
- reviewing loan documentation.

Farmer Mac is not obligated to assume credit risk on every rural utilities loan submitted to Farmer Mac that meets its underwriting and collateral valuation standards. Farmer Mac may consider other factors, such as portfolio diversification, in deciding whether or not to accept the loans.

Collateral

It is customary in loans to distribution cooperatives and G&T cooperatives for the lender to take a security interest in substantially all of the borrower's assets. In cases in which 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. In cases where debt indentures are used, Farmer Mac determines if available collateral is adequate to support the loan program and Farmer Mac's investment. As of December 31, 2017, substantially all of the Rural Utilities loans held by Farmer Mac consisted of loans with a pledge of all assets. Farmer Mac sometimes purchases unsecured Rural Utilities loans that meet stricter underwriting standards than those described above under "—Underwriting." In accordance with Farmer Mac's internal policies, the total outstanding balance of unsecured Rural Utilities loans may not exceed $100 million. As of December 31, 2017, Farmer Mac held $25.1 million of unsecured Rural Utilities loans.

Servicing

Farmer Mac generally does not directly service the Rural Utilities loans held in its portfolio. Those loans are serviced by a servicer designated by Farmer Mac. National Rural Utilities Cooperative Finance Corporation ("CFC") currently services all of the Rural Utilities loans in Farmer Mac's portfolio. CFC is a related party to Farmer Mac by virtue of CFC's stock ownership in Farmer Mac. As of December 31, 2017, CFC held approximately 8 percent of Farmer Mac's outstanding Class A voting common stock (or approximately 5 percent of total voting shares). See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Related Party Transactions."

Approved Lenders

Farmer Mac's charter requires eligible rural utilities loans be made by a lender organized as a cooperative. Currently, the only two rural utilities lenders that are cooperatives are CFC and CoBank, ACB ("CoBank"), an institution of the FCS. To date, CFC is the only lender to have participated in Farmer Mac's Rural Utilities line of business.

Portfolio Diversification

Rural utilities loans are made throughout the entire United States. Farmer Mac analyzes the geographic distribution of loans to cooperatives and considers regional concentration levels in connection with its business activities under the Rural Utilities program. As of December 31, 2017, Farmer Mac had direct credit exposure on 1,066 loans to electric cooperatives constituting $1.9 billion across 39 states.

Farmer Mac's charter does not prescribe a maximum loan size for an eligible rural utilities loan, but Farmer Mac currently has a $50.0 million limit in place for cumulative direct credit exposure on those loans (e.g., purchases of loans, LTSPCs, or guarantees of securities representing interests in loans) to any one borrower or group of related borrowers. For indirect credit exposures on rural utilities loans (e.g., AgVantage transactions), Farmer Mac's current limit 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 toward the $75.0 million limit. See "Business—Farmer Mac's Lines of Business—Institutional Credit." As of December 31, 2017, Farmer Mac's direct credit exposure to rural utilities loans consisted of $1.4 billion in loans to distribution cooperatives and $0.5 billion in loans to G&T cooperatives.

Institutional Credit

Under the Institutional Credit line of business, Farmer Mac provides advances against eligible loans by guaranteeing and purchasing general obligations of institutions approved by Farmer Mac, which obligations are also secured by the types of loans eligible for one of Farmer Mac's other lines of business. Farmer Mac refers to these obligations as AgVantage® securities. Farmer Mac guarantees the timely payment of principal and interest on AgVantage securities and may retain AgVantage securities in its portfolio or sell them to third parties in the capital markets as Farmer Mac Guaranteed Securities.

Farmer Mac has direct credit exposure to the issuers of AgVantage securities and assumes the ultimate credit risk of issuer default on the AgVantage securities. Before approving an institution as an issuer in an AgVantage transaction, Farmer Mac assesses the institution's creditworthiness as well as its loan performance. 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 issuing institution, AgVantage securities must be secured by eligible loans or guaranteed securities in an amount at least equal to the outstanding principal amount of the security. As a result, Farmer Mac has indirect credit exposure to the loans or guaranteed securities that are pledged to secure the AgVantage securities, which would be available to Farmer Mac in the event of a default by the issuer.

Loans pledged under AgVantage securities are serviced by the issuers of the securities in accordance with that institution's servicing procedures. Farmer Mac reviews these servicing procedures before entering into those transactions. 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 substitute an eligible loan that is current in payment 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; or
- other highly-rated securities.

The required collateralization level for the AgVantage securities secured by Farm & Ranch loans currently ranges from 103 percent to 125 percent. Within this range, Farmer Mac generally requires higher collateralization levels for securities issued by institutions without long-term debt ratings from a nationally recognized statistical rating organization ("NRSRO"). The required collateralization level is established at the time the AgVantage facility is entered into with the counterparty and does not change during the life of the AgVantage securities issued under such facility.

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 and that the value is supported by either appraisals that conform to USPAP or similar collateral valuation methods based upon Farmer Mac's evaluation of the lender's collateral valuation protocols and history. Although the charter does not prescribe a maximum loan size or a total borrower exposure for an eligible Farm & Ranch loan secured by 1,000 acres or less of agricultural real estate, for AgVantage transactions Farmer Mac currently limits the size of those loans to $75.0 million in cumulative exposure through a single lender to any one borrower or group of related borrowers (with the amount of any direct borrower exposure not counting toward the $75 million limit).

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 and AgVantage transactions with smaller financial funds or entities (1) generally maintain a higher collateralization level, through lower loan-to-value ratio thresholds and higher overcollateralization requirements, and (2) generally contain specified financial covenants for the life of the related AgVantage security to avoid default. As of December 31, 2017, Farmer Mac had $279.7 million of outstanding Farm Equity AgVantage securities.

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

- 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;
- the collateral to be comprised of loans, or interests in loans, for electric or telephone facilities by a lender organized as a cooperative to a borrower that has received or is eligible to receive a loan under the REA;
- the collateral to be classified as performing and not in payment default beyond the applicable cure period; 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 distribution cooperatives on which Farmer Mac assumes direct credit exposure also apply to loans made to distribution cooperatives that secure the general obligation of the lender in AgVantage transactions. See "Business—Farmer Mac's Lines of Business—Rural Utilities—Underwriting." For loans made to G&T cooperatives that secure the general obligation of the issuer in AgVantage transactions, the G&T cooperative must either (1) have a rating from an NRSRO of BBB- (or equivalent rating) or better or (2) meet the following underwriting standards (based on the average of the most recent three years):

- the aggregate members' equity to total capitalization ratio equals or exceeds 25 percent;
- the modified debt service coverage ratio equals or exceeds 1.10; and
- the equity to total assets ratio equals or exceeds 10 percent.

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 million limit). Farmer Mac also permits up to 20 percent of rural utilities loans pledged to secure AgVantage securities to be unsecured or secured by less than all of the borrower's assets. As of December 31, 2017, all AgVantage securities secured by eligible rural utilities loans were issued by CFC, which is a related party to Farmer Mac by virtue of CFC's stock ownership in Farmer Mac. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Related Party Transactions."

As of December 31, 2017, Farmer Mac had not experienced any credit losses, nor had it been called upon to make a guarantee payment to third parties, on any of its AgVantage securities. For more information on Farmer Mac's AgVantage securities, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional."

Summary of Institutional Credit Transactions

During the year ended December 31, 2017, Farmer Mac added a total of $2.4 billion of new business volume under the Institutional Credit line of business. That new business volume was partially offset by repayments on existing assets (principal paydowns and maturities) during the year, resulting in $7.9 billion of total outstanding business volume in this line of business as of December 31, 2017, compared to $7.3 billion as of December 31, 2016.

As of December 31, 2017 and 2016, the outstanding principal amount of AgVantage securities held by Farmer Mac on its balance sheet was $7.6 billion and $6.0 billion, respectively. As of December 31, 2017 and 2016, the aggregate outstanding principal amount of off-balance sheet AgVantage securities sold to third parties totaled $0.3 billion and $1.3 billion, respectively. The decrease in the unpaid principal balance of outstanding off-balance sheet AgVantage securities from year-end 2016 was attributable to the refinancing of a $1.0 billion AgVantage security that matured in April 2017 into three new on-balance sheet AgVantage securities. Previously, $970.0 million of this $1.0 billion maturing AgVantage security was reported as off-balance sheet business volume because it was owned by third party investors. The amount as of both December 31, 2017 and 2016 includes a $300.0 million revolving floating rate AgVantage facility entered into with CFC. During 2017, $100.0 million of this facility was drawn and subsequently repaid. During 2016, this facility was not utilized. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Business Volume" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional." The following table summarizes new Institutional Credit line of business activity for each of the years ended December 31, 2017, 2016, and 2015:

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
AgVantage Securities	$2,383,912	$2,098,852	$743,158
Revolving floating rate AgVantage facility	—	—	300,000
	$2,383,912	$2,098,852	$1,043,158

The following table presents the outstanding principal amount of AgVantage securities held by Farmer Mac and off-balance sheet AgVantage securities as of the dates indicated:

	As of December 31,	
	2017	2016
	(in thousands)	
On-balance sheet:		
AgVantage Securities	$7,593,322	$6,004,472
Off-balance sheet:		
AgVantage Securities	$11,556	$983,214
Revolving floating rate AgVantage facility(1)	300,000	300,000
Total off-balance sheet	$311,556	$1,283,214
Total	$7,904,878	$7,287,686

(1) During 2017, $100.0 million of this facility was drawn and subsequently repaid. During 2016, this facility was not utilized. Farmer Mac receives a fixed fee based on the full dollar amount of the facility. If the counterparty draws on the facility, the amounts drawn will be in the form of AgVantage Securities, and Farmer Mac will earn interest income on those securities.

FUNDING OF GUARANTEE AND LTSPC OBLIGATIONS

The principal 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 satisfies its obligations under LTSPCs and its guarantees by purchasing defaulted loans out of LTSPCs and from the related trusts for Farmer Mac 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 owned ("REO"), which consists of real estate acquired through foreclosure, and fair value adjustments of REOs held. During 2017, Farmer Mac had net credit gains of $1.4 million, compared to net credit losses of $0.2 million during 2016. The net credit gains during 2017 included $1.7 million of net gains on the sale of REO compared to $15,000 during 2016.

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, 2017, this reserve against losses arising from Farmer Mac's guarantee activities was $71.6 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 Farmer Mac Guaranteed Securities, 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

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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, including 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(j) and Note 8 to the consolidated financial statements.

FINANCING

Debt Issuance

Farmer Mac's statutory charter authorizes Farmer Mac to issue debt obligations to purchase eligible loans, USDA Securities, and Farmer Mac Guaranteed Securities, and to maintain reasonable amounts for business operations, including adequate liquidity. Farmer Mac funds its purchases of eligible loan 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 transaction costs and its obligations under guarantees and LTSPCs. Farmer Mac's debt obligations include discount notes and fixed and floating rate medium-term notes, including callable notes, all 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 interest and principal on Farmer Mac's debt obligations are not guaranteed by, and do not constitute debts or obligations of, FCA or 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's board of directors has authorized the issuance of up to $18.0 billion of discount notes and medium-term notes (of which $15.5 billion was outstanding as of December 31, 2017), subject to periodic review of the adequacy of that level relative to Farmer Mac's borrowing needs. Farmer Mac invests the proceeds of its debt issuances in loan 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 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. Farmer Mac's current policies authorize liquidity investments in:

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

- preferred stock issued by other FCS institutions.

For more information about Farmer Mac's outstanding investments and indebtedness, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Balance Sheet Review" and 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 voting and non-voting common stock and non-voting 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 percent 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, 2017, 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
- 9,087,670 shares of Class C non-voting common stock.

Farmer Mac's board of directors approved a share repurchase program during third quarter 2015 authorizing Farmer Mac to repurchase up to $25.0 million of its outstanding Class C non-voting common stock for two years. In August 2017, Farmer Mac's board of directors approved the continuation of the share repurchase program on its existing terms through August 2019 for the repurchase of up to $5.4 million of Farmer Mac's outstanding Class C non-voting common stock, which is the amount currently remaining under the share repurchase program as originally authorized. As of December 31, 2017, Farmer Mac had repurchased approximately 668,000 shares of Class C non-voting common stock at a cost of approximately $19.6 million pursuant to the share repurchase program.

The following table presents the dividends declared on Farmer Mac's common stock during and subsequent to 2017:

Date Dividend Declared	Per Share Amount	For Holders Of Record As Of	Date Paid
March 1, 2017	$0.36	March 20, 2017	March 31, 2017
May 3, 2017	$0.36	June 15, 2017	June 30, 2017
August 3, 2017	$0.36	September 15, 2017	September 29, 2017
November 1, 2017	$0.36	December 15, 2017	December 29, 2017
February 28, 2018	$0.58	March 19, 2018	*

* The dividend declared on February 28, 2018 is scheduled to be paid on March 30, 2018.

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—Regulation—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, 2017, the following shares of Farmer Mac preferred stock were outstanding:

- 2,400,000 shares of Series A Preferred Stock, all of which were issued on January 17, 2013;
- 3,000,000 shares of Series B Preferred Stock, all of which were issued on March 25, 2014; and
- 3,000,000 shares of Series C Preferred Stock, all of which were issued on June 20, 2014.

The Series A Preferred Stock, Series B Preferred Stock, and Series C Preferred Stock (collectively referred to as the "Outstanding Preferred Stock") each has a par value of $25.00 per share and an initial liquidation preference of $25.00 per share. Farmer Mac incurred direct costs of $1.7 million related to the issuance of the Series A Preferred Stock, direct costs of $1.9 million related to the issuance of the Series B Preferred Stock, and direct costs of $1.6 million related to the issuance of the Series C Preferred Stock. Since each of their respective issuances, Farmer Mac has not issued any additional 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 A Preferred Stock and the Series B Preferred Stock pay an annual dividend rate fixed at 5.875 percent and 6.875 percent, respectively, for the life of the securities. The Series C Preferred Stock pays an annual dividend rate of 6.000 percent 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 3.260 percent. Dividends on all series of Outstanding Preferred Stock are non-cumulative, which means that if the 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. 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 A Preferred Stock, Series B Preferred Stock, and Series C 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 A Preferred Stock on and anytime after January 17, 2018, the Series B Preferred Stock on and anytime after April 17, 2019, and the Series C Preferred Stock on and anytime after July 18, 2024, all at a price equal to the then-applicable liquidation preference. 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—Regulation—Capital Standards."

The following table presents the dividends declared and paid on Series A Preferred Stock during and subsequent to 2017:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
March 1, 2017	$0.3672	January 18, 2017	April 17, 2017	April 17, 2017
May 3, 2017	$0.3672	April 18, 2017	July 17, 2017	July 17, 2017
August 3, 2017	$0.3672	July 18, 2017	October 17, 2017	October 17, 2017
November 1, 2017	$0.3672	October 18, 2017	January 17, 2018	January 17, 2018
February 28, 2018	$0.3672	January 18, 2018	April 17, 2018	*

* The dividend declared on February 28, 2018 is scheduled to be paid on April 17, 2018.

The following table presents the dividends declared and paid on Series B Preferred Stock during and subsequent to 2017:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
March 1, 2017	$0.4297	January 18, 2017	April 17, 2017	April 17, 2017
May 3, 2017	$0.4297	April 18, 2017	July 17, 2017	July 17, 2017
August 3, 2017	$0.4297	July 18, 2017	October 17, 2017	October 17, 2017
November 1, 2017	$0.4297	October 18, 2017	January 17, 2018	January 17, 2018
February 28, 2018	$0.4297	January 18, 2018	April 17, 2018	*

* The dividend declared on February 28, 2018 is scheduled to be paid on April 17, 2018.

The following table presents the dividends declared and paid on Series C Preferred Stock during and subsequent to 2017:

Date Dividend Declared	Per Share Amount	For Period Beginning	For Period Ending	Date Paid
March 1, 2017	$0.3750	January 18, 2017	April 17, 2017	April 17, 2017
May 3, 2017	$0.3750	April 18, 2017	July 17, 2017	July 17, 2017
August 3, 2017	$0.3750	July 18, 2017	October 17, 2017	October 17, 2017
November 1, 2017	$0.3750	October 18, 2017	January 17, 2018	January 17, 2018
February 28, 2018	$0.3750	January 18, 2018	April 17, 2018	*

* The dividend declared on February 28, 2018 is scheduled to be paid on April 17, 2018.

Non-Controlling Interest in Farmer Mac II LLC

Until March 30, 2015, Farmer Mac II LLC had 250,000 shares of preferred stock outstanding ("Farmer Mac II LLC Preferred Stock") as a result of a private offering completed in January 2010 of $250.0 million aggregate face amount of securities issued by a newly formed Delaware statutory trust. The trust securities, called Farm Asset-Linked Capital Securities or "FALConS," represented undivided beneficial ownership interests in the 250,000 shares of Farmer Mac II LLC Preferred Stock. The Farmer Mac II LLC Preferred Stock had a liquidation preference of $1,000 per share. From the date of issuance to but excluding the quarterly payment date occurring on March 30, 2015, the annual dividend rate on the Farmer Mac II LLC Preferred Stock was 8.875 percent, at which time the annual dividend rate would have increased to 10.875 percent had the Farmer Mac II Preferred Stock not been redeemed on March 30, 2015. The redemption of Farmer Mac II LLC Preferred Stock on March 30, 2015 triggered the redemption of all the outstanding FALConS securities on that same day.

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 for the purpose of fulfilling 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 $71.6 million as of December 31, 2017); 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, 2017, 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 Farmer Mac Guaranteed Securities, 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 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 statutory charter also requires offerings of Farmer Mac Guaranteed Securities to be registered under the Securities Act of 1933 and related regulations (collectively, the "Securities Act"), unless an exemption for an offering is available that is not related to Farmer Mac's status as an instrumentality of the United States.

Since Farmer Mac's creation, Congress has amended Farmer Mac's charter four 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 percent of the principal of the purchased loans and modifying capital requirements); and
- in 2008 to authorize Farmer Mac to purchase, and guarantee securities backed by, loans made by lenders organized as cooperatives to borrowers to finance electrification and telecommunications systems in rural areas.

Farmer Mac's authorities and regulatory structure were not revised by subsequent 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 that are not related 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 percent of Farmer Mac's aggregate on-balance sheet assets, as calculated for regulatory purposes, plus 0.75 percent of Farmer Mac's aggregate off-balance sheet obligations, specifically including:

  the unpaid principal balance of outstanding Farmer Mac Guaranteed Securities;
  instruments issued or guaranteed by Farmer Mac that are substantially equivalent to Farmer Mac Guaranteed Securities, 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 percent 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 is required to 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 increase to a level equal to the lesser of 600 basis points or 50 percent 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 percent to the resulting capital requirement for management and operational risk.

As of December 31, 2017, Farmer Mac's statutory minimum and critical capital requirements were $520.3 million and $260.1 million, respectively, and its actual core capital level was $657.1 million, which is $136.8 million above the statutory minimum capital requirement and $397.0 million above the statutory critical capital requirement. Based on the risk-based capital stress test, Farmer Mac's risk-based capital requirement as of December 31, 2017 was $235.4 million and Farmer Mac's regulatory capital of $665.9 million exceeded that amount by approximately $430.5 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 for purposes of determining compliance with the capital standards established by Farmer Mac's charter. As of December 31, 2017, 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 a number of 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 levels II and III include:

- requiring Farmer Mac to submit and comply with a capital restoration plan;
- prohibiting the payment of dividends if such payment would result in Farmer Mac being reclassified as within a lower level and requiring the pre-approval of any dividend payment even if such 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 foregoing mandatory supervisory measures, 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 in the event 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 Farmer Mac Guaranteed Securities 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 has established a policy that will require 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 have maintained at all times during 2017 a Tier 1 capital ratio of not less than 6.75 percent of risk-weighted assets, calculated using an advanced internal ratings based ("AIRB") asset risk weighting regime that is consistent with current Basel-based principles, with the minimum Tier 1 capital ratio increasing to 7.0 percent in 2018 and thereafter.

The policy also requires Farmer Mac to maintain a "capital conservation buffer" of additional Tier 1 capital of more than 2.5 percent of risk-weighted assets. If the capital conservation buffer drops to various levels at or below 2.5 percent, 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 will remain for so long as the Tier 1 capital conservation buffer remains at or below the minimum level of 2.5 percent, and Farmer Mac's board of directors may consider other factors, such as GAAP earnings and other regulatory requirements, in determining whether to restrict capital distributions, including dividends and bonus payments. As of December 31, 2017, Farmer Mac's Tier 1 capital ratio was 12.6%. In 2016, Farmer Mac adjusted the calculation of its Tier 1 capital ratio to eliminate certain interest rate risk components of the risk weighting of assets to reflect the fact that Farmer Mac pursues a match-funding approach to funding its assets 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. 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.

Item 1A. Risk Factors

Farmer Mac's business activities, financial performance, and results of operations are, by their nature, subject to a number of 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 in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of this Annual Report on Form 10-K, including the risks and uncertainties described in the "Forward-Looking Statements" section. Furthermore, because new risk factors likely will emerge from time to time, management can neither predict all such risk factors nor assess the effects of such factors on Farmer Mac's business, operating results, and financial condition or the extent to which 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, except as required by law.

Credit Risk

Factors affecting the agricultural industry or the rural utilities industry, some of which may be outside of Farmer Mac's or borrowers' control, may negatively affect borrowers' profitability and, as a consequence, their ability to repay their loans on which Farmer Mac has assumed credit risk, and any widespread repayment shortfalls on these eligible loan assets could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

External factors or variables beyond Farmer Mac's or borrowers' control that could negatively affect borrowers' profitability, and therefore, their repayment capacity, could cause Farmer Mac to experience increased delinquency rates, default rates, and credit losses within its loan portfolio, including, but not limited to:

- severe protracted or sudden adverse weather conditions, natural disasters, wildfires, animal and plant disease outbreaks, restrictions on water supply or changes to sustainable groundwater management practices, limited access to transportation to move agricultural products to markets, or other conditions affecting particular geographic regions or industries;
- volatility in revenues or production expenses as a result of changes in commodity or fuel prices or labor costs or availability within any particular industry;
- fluctuations in currency exchange markets, modifications to U.S. or global trade policies, or changes in the global economy that would reduce export demand for U.S. agricultural products;
- slow or negative domestic or international economic growth, which could reduce demand for U.S. agricultural products;
- adverse changes in interest rates, agricultural land values, or other factors that may affect delinquency levels and credit losses on agricultural real estate mortgage loans;
- legislative or regulatory developments or actions adversely affecting the agricultural industry or the rural utilities industry;

- changes in the general economy that could affect the availability of off-farm sources of income and prices of real estate for borrowers; and
- economic conditions or technological advances that may negatively affect the market for electricity in rural areas and consequently limit the ability of rural electric cooperatives to provide electricity or raise rates to achieve profitable levels.

Farmer Mac's earnings depend significantly on the performance of its loan assets and the spread between the interest, guarantee fees, and commitment fees earned on those assets and interest paid on Farmer Mac's obligations and liabilities. Farmer Mac assumes the ultimate credit risk of borrower defaults on the agricultural mortgage and rural utilities loans it holds, as well as the loans underlying LTSPCs and non-AgVantage Farmer Mac Guaranteed Securities. Widespread repayment shortfalls on loans in the Farm & Ranch line of business or Rural Utilities line of business could result in losses on loans held or require Farmer Mac to pay under its guarantees and LTSPCs, which could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

In the Farm & Ranch line of business, repayment of loans typically depends on the success of the related farming operation, which, in turn, depends on many variables and factors, including those described above, over which farmers may have little or no control. Farmer Mac's credit risk may also increase in the case of a loan with a balloon payment due at maturity if the borrower seeks to refinance but is unable to do so. As of December 31, 2017, 65.9 percent of the loans in the Farm & Ranch line of business included balloon payments. Farmer Mac may also be subject to credit risk due to concentration in or exposure to a particular commodity type, geographic region, business partner, or borrower. Widespread weakening in the financial conditions of borrowers within a particular geographic region or commodity type or the default of any particular business partner could negatively impact Farmer Mac’s financial condition, and Farmer Mac’s policies regarding geographic and commodity concentration and its processes to monitor counterparty credit exposure may not be sufficient. Additionally, while Farmer Mac’s Farm & Ranch portfolio consists of loans varying in size and by borrower, the average size of loans purchased by Farmer Mac has increased and includes several large loans with large borrowers. The default of any one of these borrowers could also negatively impact Farmer Mac's financial condition. Farmer Mac's credit risk may also increase as a result of its exposure to loans that are adversely affected by a decline in the sale value of the underlying collateral, which can vary based on several factors, including commodity type, geographic region, and the degree to which the collateral is single-use or highly improved. Loans to borrowers in certain commodity groups or geographic regions that have had historically higher delinquency rates or credit losses relative to Farmer Mac's overall portfolio may present a higher risk of delinquency or credit losses in future periods. For example, as of December 31, 2017, loans to borrowers in the permanent plantings category comprised 19.9 percent of the Farm & Ranch portfolio, but delinquencies in this category comprised 38.9 percent of the aggregate delinquencies for all commodity categories. Also, the degree to which the collateral for a commodity group is single-use or highly improved, such as for permanent plantings, agricultural storage or processing facilities, or certain livestock facilities, may be a significant determinant of the probability of ultimate losses on a given loan because producers requiring such highly improved collateral are less able to adapt their operations or switch commodity groups when faced with adverse conditions. For example, as of December 31, 2017, loans to borrowers in the Agricultural Storage and Processing category (including ethanol facilities) comprised 0.9 percent of the Farm & Ranch portfolio, but cumulative net credit losses for this category comprised 47.3 percent of the cumulative net credit losses for all categories. Widespread deterioration in collateral values, resulting in the undercollateralization of the related loans, could have a material adverse effect on Farmer Mac's financial condition, results of operations, liquidity, or capital levels.

In the Rural Utilities line of business, eligible utilities operations include the distribution of electricity, the generation and transmission of electricity, and telecommunications. Repayment of eligible loans in this line of business could be affected by several factors. Although each type of utilities operation has different inherent risks associated with it, all of them could be potentially affected by changes in public and regulatory policies. In addition, business cash flows can be disrupted as a result of storms, though distribution cooperatives have in place cost-sharing arrangements with providers in other regions that mitigate this exposure. Historically, natural disasters have often resulted in disaster area declarations and financial aid to utilities providers through the Federal Emergency Management Agency and other conduits, although there can be no assurance that any such aid would be available in the event of any future natural disaster. Electrical distribution and generation cooperatives can also be adversely affected by changes in fuel costs and prices received from consumers, as well as by contractual power obligations that do not match up with supply or demand. Additionally, technological advances and innovation in the power industry could reduce customer demand for electricity in the future. If Farmer Mac purchases telecommunications loans in the future, the depth and pace of technological change in the telecommunications industry can also provide significant challenges, as the industry requires heavy capital investment and correct judgments about the sustainability of new technologies in an area with many competitors. If any of the factors described above negatively impacts the cash flows or financial condition of utilities operations that are borrowers on loans in Farmer Mac's Rural Utilities portfolio, Farmer Mac's financial condition, results of operations, liquidity, or capital levels could be adversely affected.

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 Farmer Mac Guaranteed Securities and LTSPCs, 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, 2017, Farmer Mac had $4.0 billion of contingent liabilities related to Farmer Mac Guaranteed Securities and LTSPCs issued to third parties, which represents Farmer Mac's exposure if all loans underlying these guarantees and LTSPCs defaulted and Farmer Mac recovered no value from the related collateral. Farmer Mac's principal sources of funds for payments on all of its liabilities, including claims that may arise under its guarantees and LTSPCs, are the liquid assets held by Farmer Mac (including cash and cash equivalents), guarantee and commitment fees, interest payments on assets held by Farmer Mac, loan repayments, repayment of principal amounts due upon maturity of AgVantage securities, and proceeds from the issuance of debt securities. If all of the loans underlying Farmer Mac's guarantees and LTSPCs defaulted and Farmer Mac recovered no value from the related collateral, the funds for payment on these guarantees and LTSPCs could be substantially less than the aggregate amount of the corresponding liabilities. It is difficult to quantify at any particular point in time the funds that would be available from interest payments, loan repayments, and maturing AgVantage securities for payment on Farmer Mac's guarantees and LTSPCs, and Farmer Mac's ability to issue debt as a source of repayment would be subject to its ability to access the debt markets and market conditions at that time. As of December 31, 2017, Farmer Mac held cash, cash equivalents, and other investment securities with a fair value of $2.6 billion that could be used as a source of funds for payment on its obligations. Although Farmer Mac believes that it remains well-collateralized on the assets underlying its guarantee and purchase commitment 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 exceed the amount it may have available for payment of claims on these 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 credit risk on AgVantage securities that could materially and adversely affect its business, operating results, and financial condition.

Farmer Mac is exposed to credit risk from issuers of AgVantage securities. Each AgVantage security is a general obligation of an issuing institution secured by eligible loans in an amount at least equal to the outstanding principal amount of the security and guaranteed by Farmer Mac. Most of Farmer Mac's AgVantage exposure is concentrated in a small number of issuers. As of December 31, 2017, $7.4 billion of the $7.9 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 seeks to manage its risk to AgVantage counterparties by reviewing each institution for which Farmer Mac has AgVantage exposure and requiring those institutions to meet Farmer Mac's standards for creditworthiness. In addition, Farmer Mac requires some level of overcollateralization (currently between 103 percent and 125 percent of the principal amount of the securities issued) and, in some cases, compliance by the counterparty with specified financial covenants for the life of the related AgVantage securities, for AgVantage securities secured by Farm & Ranch loans. Specifically, certain issuing institutions and smaller financial counterparties that use Farmer Mac's AgVantage or Farm Equity AgVantage products may not be considered as creditworthy as Farmer Mac's other counterparties issuing AgVantage securities. Therefore, these issuing institutions and smaller financial counterparties are subject to significantly higher overcollateralization requirements (currently between 120 percent and 125 percent of the principal amount of the securities issued) and must comply with specified financial covenants for the life of the related AgVantage securities.

Farmer Mac is exposed to counterparty credit risk on its investment securities that could materially and adversely affect its business, operating results, and financial condition.

Farmer Mac maintains an investment portfolio that can be drawn upon for liquidity needs. In addition to cash and cash equivalents (such as U.S. Treasury securities and short-term money market instruments), this portfolio consists of investment securities, including securities guaranteed by U.S. Government agencies and GSEs, corporate debt obligations, and auction-rate certificates. Though some of these investment securities do not qualify for purposes of calculating liquidity under the regulatory requirements prescribed by FCA, they still may be drawn upon for Farmer Mac's liquidity needs. 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. For example, as of December 31, 2017, Farmer Mac held at fair value, as part of its liquidity investment portfolio, $35.1 million of asset-backed securities principally backed by U.S. Government-guaranteed student loans (including $18.8 million of auction-rate certificates) and $893.8 million 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 is exposed to swap counterparty credit 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 relies on interest rate swap contracts and hedging arrangements to effectively manage its interest rate risk. Farmer Mac clears a significant portion of its interest rate swaps through a swap clearinghouse through which centrally-cleared derivatives and futures contracts are traded, and posts initial and variation margin to this clearinghouse. These collateral postings expose Farmer Mac to institutional credit risk if either the clearinghouse or the futures commission merchant that Farmer Mac uses to post collateral to the clearinghouse fails to meet its obligations. Conversely, the use of centrally-cleared derivatives mitigates Farmer Mac's credit risk to individual counterparties because clearinghouses assume the credit risk among counterparties in centrally-cleared derivatives transactions. However, if either the clearinghouse or the futures commission merchant that Farmer Mac uses to post collateral to the clearinghouse fails to meet its obligations, Farmer Mac could face challenges in accessing its posted collateral, which could materially and adversely affect its business, operating results, and financial condition.

A portion of Farmer Mac's interest rate swap contracts are not cleared through swap clearinghouses, which creates swap counterparty credit risk on those non-cleared swaps transactions. In managing this risk, Farmer Mac contracts only with counterparties that have investment grade credit ratings, establishes and maintains minimum threshold collateral requirements that are scaled based upon credit ratings (for non-cleared swaps transactions entered into prior to March 2017), and enters into netting agreements. Additionally, new rules that became effective in March 2017 establish zero threshold requirements for the exchange of variation margin between Farmer Mac and its swap dealer counterparties in non-cleared swaps transactions entered into following the effective date. However, failure to perform under a non-cleared derivatives contract by one or more of Farmer Mac's counterparties could disrupt Farmer Mac's hedging operations, particularly if Farmer Mac were entitled to a termination payment under the terms of the contract that it did not receive, or if Farmer Mac were unable to reposition the swap with a new counterparty. Of the $8.8 billion combined notional amount of Farmer Mac's interest rate swaps as of December 31, 2017, $0.9 billion were not cleared through swap clearinghouses. As of December 31, 2017, Farmer Mac's credit exposure to interest rate swap counterparties was $28.5 million excluding netting arrangements and $0.5 million including netting arrangements.

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 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, including adverse changes in the capital markets or changes in public policy, 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, which could adversely affect the value and performance of Farmer Mac's eligible loan assets and investment securities, liquidity position, and ability to access funding at favorable levels or to raise capital;

- competitive pressures in the purchase of loans eligible for Farmer Mac's lines of business and in the sale of Farmer Mac Guaranteed Securities and debt securities;
- changes in interest rates that may increase the basis risk of Farmer Mac's hedging instruments, thereby increasing its funding costs; and
- public perception of the risks posed by changes in Farmer Mac's executive leadership;
- legislative or regulatory developments or interpretations of Farmer Mac's statutory charter, that could adversely affect Farmer Mac or its ability to offer new products, adversely affect the ability or motivation of certain lenders to participate in Farmer Mac's lines of business or the terms of any such participation, or increase the cost of related corporate activities.

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 securities and to issue substantial amounts of debt frequently and at favorable rates. The issuance of equity and debt securities in the U.S. financial markets are the primary sources of Farmer Mac's capitalization and funding for Farmer Mac's purchases of eligible loan assets and liquidity investment assets and for repaying or refinancing existing debt. Moreover, 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 obtain funds through the issuance of equity and debt securities, at favorable rates and terms, depends on many factors, including:

- Farmer Mac's corporate structure established by its charter, including its status as a government-sponsored enterprise, or GSE, and perceptions about the viability of stockholder-owned GSEs in general;
- compliance with applicable statutory, regulatory, and board-approved capital requirements and any measures imposed by Farmer Mac's regulator or board of directors if Farmer Mac failed to comply with those requirements;
- Farmer Mac's financial results and changes in its financial condition;
- public perception of the risks to, and stability and financial prospects of, Farmer Mac's business;
- public perception of the risks posed by changes in Farmer Mac's executive leadership;
- prevailing conditions in the capital markets;
- lack of a public debt rating may reduce demand for Farmer Mac's debt securities;
- competition from other issuers of GSE equity or debt; and
- legislative or regulatory actions relating to Farmer Mac's business, including any actions that would affect Farmer Mac's GSE status.

Farmer Mac's business development, profitability, and capital depend on the continued growth of the secondary market for agricultural real estate mortgage loans and for rural utilities loans, which may be constrained by a number of factors.

Continued growth in Farmer Mac's business and future profitability may be constrained by conditions that limit the need or ability for lenders to obtain the benefits of the secondary market provided by Farmer Mac, including, but not limited to:

- reduced growth rates in the agricultural mortgage market caused by prevailing conditions in the overall economy;
- an increase in capital levels or the availability of other sources of capital for customers of Farmer Mac;
- acceptance by Federal Home Loan Banks of agricultural real estate mortgage loans as collateral;
- the extent to which many agricultural lending institutions retain loans in their portfolios rather than sell them into the secondary market;
- the small number of business partners that currently provide a significant portion of Farmer Mac's business volume, resulting in vulnerability as existing business volume pays down or matures and the status of these business partners evolves; and
- expanded funding alternatives available to rural utilities.

The failure of an issuer to pay the outstanding principal amount or to issue new AgVantage securities upon the maturity of outstanding AgVantage securities could negatively affect Farmer Mac's liquidity position and income.

As of December 31, 2017, Farmer Mac had $7.9 billion of AgVantage securities outstanding, of which $2.4 billion and $1.1 billion will be maturing in 2018 and 2019, respectively. Farmer Mac guarantees the timely payment of principal and interest on AgVantage securities and may retain AgVantage securities in its portfolio or sell them to third parties in the capital markets as Farmer Mac Guaranteed Securities. The terms of most AgVantage securities do not require the periodic payment of principal based on amortization schedules and instead have fixed maturity dates when the secured general obligation is due. If the issuer of a maturing AgVantage security defaults and does not pay the outstanding principal amount due upon maturity, Farmer Mac's liquidity position could be negatively affected because Farmer Mac will be required to obtain funds in a significant amount to pay the holder of the AgVantage security or, for AgVantage securities owned by Farmer Mac, to pay off the debt securities used to fund the purchase of the AgVantage securities. Farmer Mac's income could also be adversely affected if the issuer of a maturing AgVantage security does not issue new AgVantage securities to replace the maturing securities and Farmer Mac does not find alternate sources of business, or if the net interest margin earned by Farmer Mac on new AgVantage securities that replace maturing AgVantage securities is lower than the margin earned on the maturing AgVantage securities.

The loss of business from key business partners or customers could adversely affect Farmer Mac's business and result in a decrease in 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. Farmer Mac conducts a significant portion of its business with a small number of business partners. This results in vulnerability as existing assets pay down or mature and the status and needs of Farmer Mac's business partners evolve. In 2017, ten institutions generated approximately 59 percent of loan purchase volume in the Farm & Ranch line of business. As of December 31, 2017, approximately 93.9 percent of the $7.9 billion outstanding principal amount of AgVantage securities under Farmer Mac's Institutional Credit line of business were issued by three institutions. Transactions with CFC have represented 100 percent of business volume under Farmer Mac's Rural Utilities line of business since its inception in 2008. Farmer Mac's ability to maintain the current relationships with its business partners or customers and the business generated by those business partners or customers is significant to Farmer Mac's business. Consequently, the loss of business from any one of Farmer Mac's key business partners could negatively impact Farmer Mac's revenues and profitability. Furthermore, Farmer Mac may not be able to replace the loss of business of a key business partner or customer with alternate sources of business due to limitations on the types of assets eligible for the secondary market provided by Farmer Mac under its charter, which could adversely affect Farmer Mac's business and result in a decrease in its revenues and profits.

Farmer Mac's efforts to balance fulfilling its Congressional 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, loans to rural utilities cooperatives, 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.

Although Farmer Mac strives to undertake its mission-related activities in a manner consistent with providing a positive return to Farmer Mac's stockholders, it is possible that these activities may contribute to a lower return to stockholders than if Farmer Mac's sole purpose were to maximize stockholder value. In addition, it is possible that the entities that regulate Farmer Mac could seek to alter or place limits on Farmer Mac's mission-related activities in the future or place limits on its investments that provide liquidity for Farmer Mac's mission-related activities. If this were to happen, and Farmer Mac were required to undertake activities involving greater risk to satisfy its Congressional mission or that generate lower returns or limited in the activities it was allowed to undertake, 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 currently concentrated in a small number of institutions. Approximately 44 percent of Farmer Mac's Class A voting common stock is held by three financial institutions, with 31 percent held by one institution. Approximately 97 percent of Farmer Mac's Class B voting common stock is held by five FCS institutions (two of which are related to each other through a parent-subsidiary relationship).

Many holders of Farmer Mac's voting common stock are rural lenders that may compete directly with each other. At times, some of these voting stockholders may also view Farmer Mac as an indirect competitor because Farmer Mac's secondary market activities often provide attractive funding and effective risk management tools that help many lenders compete in the origination of eligible rural loans. As long as Farmer Mac's Class A and Class B voting common stock is highly concentrated in a small number of institutions, there is the potential that these institutions will seek to influence Farmer Mac's business, strategy, or board composition in a way that may not be in the best interests of either Farmer Mac or all other stockholders. Furthermore, the interests of the holders of Farmer Mac's Class A and Class B voting common stock may not be fully aligned with each other or the interests of Farmer Mac's Class C non-voting common stockholders, and this could lead to a strategy that is not in the best interests of Farmer Mac or all of its stockholders. The holders of Farmer Mac's Class A voting common stock and the holders of Farmer Mac's Class B voting

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common stock each have the right to elect one third of the membership of Farmer Mac's board of directors. Accordingly, each of these stockholder classes has the potential to significantly influence Farmer Mac's business, strategy, and board composition in a manner that may not be in the best interests of all stockholders.

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

Farmer Mac's charter prescribes that its board of directors be comprised of fifteen members. Five members are elected by holders of Farmer Mac's Class A voting common stock, five members are elected by holders of Farmer Mac's Class B voting common stock, and five members are appointed by the President of the United States with the advice and consent of the United States Senate. The holders of Farmer Mac's Class A voting common stock and of Farmer Mac's Class B voting common stock each elect one third of the membership of Farmer Mac's board of directors annually. Farmer Mac's Presidentially-appointed 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 the membership of its board of directors within a short time period, Farmer Mac's business, operations, and strategy could be negatively affected. If several newly elected or appointed directors are not able to become proficient quickly in Farmer Mac's business, operations, and strategies, this could adversely affect the effectiveness of the Farmer Mac's board of directors in overseeing and managing the business, affairs, strategies, and operations of Farmer Mac.

Operational Risk

The inadequacy or failure of Farmer Mac's operational systems, cybersecurity plan, internal controls or processes, or infrastructure, or the inability of Farmer Mac to successfully implement enhancements to any of these or migrate to new systems or infrastructure could have a material adverse effect on Farmer Mac's business, liquidity, operating results, reputation, 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 fulfill its Congressional mission, maintain operational efficiency and technological relevance, and comply with regulatory requirements. Operational risk refers to the risk of loss to Farmer Mac or damage to its reputation resulting from inadequate or failed internal processes, personnel, systems, cybersecurity plan, or infrastructure, or its inability to successfully implement enhancements to any of these or migrate to new systems or infrastructure, or from external events, including a disruption involving physical site access, cyber incidents, catastrophic events, natural disasters, terrorist activities, or disease pandemics.

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. Farmer Mac's financial, accounting, data processing, or other operating systems may fail to operate as intended or become temporarily unavailable because of events that are wholly or partially beyond Farmer Mac's control, which could adversely affect Farmer Mac's ability to conduct its business in the ordinary course. Farmer Mac relies upon 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 upon which its financial statements are based. This heightened reliance increases the risk that Farmer Mac may be exposed to financial, reputational, or other losses because of errors or inherent design flaws in its processes or systems or the failed execution of these processes or systems. Additionally, Farmer Mac's business relies on its ability to process, evaluate, and interpret significant amounts of information, much of which is provided by third parties, and that information may not be correct or Farmer Mac may fail to interpret it appropriately. Furthermore, the internal controls and processes Farmer Mac has in place designed to detect and prevent fraud may not be effective or successful.

Farmer Mac continues to invest in and enhance its technological capabilities, operational systems, cybersecurity plan, infrastructure, and organizational structure. However, additional operational risks may arise in the implementation of these endeavors, including the risk that Farmer Mac may not be able to successfully implement these enhancements or migrate to new systems or infrastructure, which may have a material adverse effect on Farmer Mac’s business, operations, or financial condition.

Many of Farmer Mac's critical business operations and activities are conducted in its main office located in Washington, D.C., and this concentration of Farmer Mac's personnel, technology, and facilities increases Farmer Mac's risk of financial or other loss. Farmer Mac also uses several third party vendors to host a significant amount of Farmer Mac's operational and information technology systems. If the operations of any of these third party vendors are disrupted, then Farmer Mac's operations could be materially adversely affected. Though Farmer Mac routinely reviews, updates, and tests its business continuity and disaster recovery plans, these plans may not be sufficient to mitigate all potential business continuity risks, as Farmer Mac's recovery capabilities could be overwhelmed by a disruption in its infrastructure or a catastrophic event such as a natural disaster, terrorist attack, extreme weather event, or disease pandemic. If Farmer Mac is not able to resume any business operations or its employees are unable to communicate with each other because of any of these events, Farmer Mac may not be able to successfully implement its continuity and disaster recovery plans, which could have a material adverse effect on Farmer Mac's business, liquidity, operating results, reputation, 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, 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 occurring 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. Similar to many other financial institutions, Farmer Mac faces regular attempts by third parties to gain unauthorized access to its information systems. Farmer Mac has experienced cyber incidents that have not had a material impact on its business, operating results, or financial condition, but it is not possible to predict the impact on Farmer Mac of any future cyber incidents.

Farmer Mac has undertaken preventive measures and devotes significant resources to design, manage, monitor, deploy, and assess its information systems and cybersecurity program consistent with industry best practices. Specifically, Farmer Mac's cybersecurity program routinely 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 not be able 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. In addition, because the methods used to launch cyber-attacks change frequently or, in some cases, are not recognized until launched, Farmer Mac may be unable to implement effective preventive measures or proactively address these methods until they are discovered. A failure or interruption in any of Farmer Mac's information systems could result in a disruption or malfunction of its operations, which could adversely affect Farmer Mac's ability to conduct business with its lenders, loan servicers, service providers, or other counterparties, result in financial loss, or cause damage to 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 result in the misappropriation, unauthorized release, loss, or destruction of the confidential, proprietary, or other information assets of its lenders, loan servicers, service providers, or other counterparties. If unauthorized access to Farmer Mac's information systems occurs or sensitive information is obtained, this 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.

Farmer Mac depends on third-party vendors, including loan servicers, information systems providers, and other service providers, to protect confidential information from unauthorized access and dissemination, and these vendors' failure to do so 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-party vendors, 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. In the course of these activities, these vendors 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 included in one of Farmer Mac's lines of business. Any unauthorized access to a vendor's information systems by 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 by third parties to Farmer Mac's vendors' information systems have not resulted in the misappropriation or inappropriate release of the confidential or proprietary information entrusted to Farmer Mac, though it is not possible to predict the consequences of any future instances. Also, any vendor's employees or agents that have access to confidential or proprietary information could inadvertently disseminate the information to inappropriate third parties. 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. Farmer Mac's techniques and strategies may not be effective in mitigating its risk exposure in all economic market environments or against all types of risk, including risks that Farmer Mac fails to identify or anticipate. Some of Farmer Mac's qualitative tools and metrics for managing risk are based upon 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. Such failures could, for example, arise from factors Farmer Mac did not anticipate or correctly evaluate in its models. In addition, Farmer Mac's quantified modeling does not take into account all risks. Farmer Mac's more qualitative approach to managing those risks not accounted for in its quantitative models could prove insufficient, exposing it 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.

Market Risk

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

Farmer Mac is subject to interest rate risk due to the possible timing differences in the cash flows of the assets it holds and related liabilities. Farmer Mac's primary strategy for managing interest rate risk is to fund asset purchases with liabilities that have similar duration and cash flow characteristics so that they will perform similarly as interest rates change. Through Farmer Mac's issuances of debt securities in the form of discount notes and medium-term notes coupled with interest rate swap contracts that adjust the characteristics of the debt issued, Farmer Mac seeks to match its liabilities closely with the cash flow and duration characteristics of its loans and other assets. However, the ability of borrowers to prepay their loans prior to the scheduled maturities increases the risk of asset and liability cash flow mismatches. In a changing interest rate environment, these cash flow mismatches could reduce 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. In addition, if assets repay more slowly than anticipated and the associated debt issued to fund the assets must be reissued at a higher yield, Farmer Mac's earnings could be adversely affected. As of December 31, 2017, of all the outstanding business volume held on Farmer Mac's balance sheet, $7.2 billion had a fixed interest rate and $7.8 billion had an adjustable interest rate.

Farmer Mac is also subject to another type of interest rate risk due to changes in its cost of funds relative to floating rate market indexes (such as LIBOR) on some of the floating rate assets it holds, which is referred to as "basis risk." Some of Farmer Mac's floating rate assets reset on rate adjustment dates based on a floating rate market index, whereas the related debt that Farmer Mac issued to fund those assets until their maturities may be refinanced based on Farmer Mac's cost of funds at a particular time. Basis risk arises from the potential variability between the rates at which those floating rate assets reset and the rates at which Farmer Mac can issue or refinance debt to fund those assets until their maturities. Farmer Mac is also subject to basis risk on some of its fixed rate assets because of its use of pay-fixed interest rate swaps, combined with a series of discount note or medium-term note issuances, as an alternative source of effectively fixed rate funding. This risk arises because the rates at which Farmer Mac refinances its funding for some fixed rate assets through the issuance of discount notes or medium-term notes may vary from the agreed-upon rates based on the floating rate market index received by Farmer Mac on the associated swaps. If the rates on Farmer Mac's discount notes or medium-term notes deteriorate relative to LIBOR during the time between when its indexed floating rate assets were first funded and when Farmer Mac refinances the associated debt or in cases when Farmer Mac uses pay-fixed swaps to fund its fixed rate assets, Farmer Mac is exposed to a commensurate reduction in its net effective spread. Conversely, if the rates on Farmer Mac's discount notes or medium-term notes improve relative to LIBOR during that time or in cases when Farmer Mac uses pay-fixed swaps to fund its fixed rate assets, Farmer Mac would benefit from a commensurate increase in its net effective spread. Although Farmer Mac seeks to issue debt of sufficient maturity to reduce the frequency of required refinancing of that debt over the life of the associated asset, it may not be able to successfully do so, which could adversely impact its business, operating results, and financial condition. As of December 31, 2017, Farmer Mac held $6.6 billion of floating-rate assets in its lines of business and its liquidity investment portfolio that reset on the basis of floating rate market indexes, primarily one-month and three-month LIBOR. As of the same date, Farmer Mac also had $2.8 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest.

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 net income.

Farmer Mac enters into financial derivatives transactions to hedge interest rate risks inherent in its business and measures its financial derivatives at fair value. Although Farmer Mac's financial derivatives provide effective 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 that is 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, which could result in regulatory enforcement action against Farmer Mac if it were unable to meet the requirement. In 2017 and 2016, Farmer Mac recorded gains of $10.2 million and $8.6 million, respectively, from changes in the fair values of its financial derivatives as a result of movements in interest rates during those years.

Changes in interest rates as well as certain credit events may trigger collateralization requirements for Farmer Mac under its derivatives contracts, which could adversely affect Farmer Mac's liquidity position or operating results.

Farmer Mac uses derivatives contracts to help manage its interest rate risk. Changes in interest rates have required, and in the future may require, Farmer Mac to post cash or investment securities to its derivative counterparties to reflect the changes in fair market values of Farmer Mac's derivatives as a result of the changes in interest rates. For example, as of December 31, 2017, Farmer Mac posted $0.1 million of cash and $24.8 million of investment securities as collateral for its derivatives in net liability positions. 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 a significant amount of cash, cash equivalents, or investment securities, possibly within a short period of time, to satisfy its obligations under its derivatives contracts. Farmer Mac is required to fully collateralize its derivatives positions without any minimum threshold for cleared swap transactions, as well as for non-cleared swap transactions entered into after March 1, 2017, the effective date of new rules that established zero threshold requirements for the exchange of variation margin between Farmer Mac and its swap dealer counterparties in such transactions. For non-cleared swaps transactions entered into prior to March 2017, Farmer Mac's derivatives contracts contain provisions establishing minimum threshold collateral amounts, ranging between $15 million and $25 million, below which Farmer Mac is not required to post collateral, though these amounts may be reduced to zero upon the occurrence of specified credit events such as insolvency, receivership, failure to make a payment under the contract when due, or failure to continue as an instrumentality of the United States. Under these contracts, the amount required to be posted would increase if Farmer Mac also experienced a credit event, thereby triggering full collateralization of its derivatives positions without any minimum threshold. If Farmer Mac is required to fully collateralize all of its derivatives positions in an adverse interest rate environment, it could have a material adverse effect on Farmer Mac's liquidity position or operating results.

Financial Risk

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

Incorrect estimates and assumptions by management in connection with the preparation of Farmer Mac's consolidated financial statements could adversely affect the reported amounts of assets and liabilities and the reported amounts of income and expenses. The preparation of Farmer Mac's consolidated financial statements requires management to make certain critical accounting estimates and assumptions that could affect the reported amounts of assets and liabilities and the reported amounts of income and expense during the reporting periods. For example, as of December 31, 2017, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at $5.5 billion whose fair values were estimated by management in the absence of readily determinable fair values (in other words, level 3). These financial instruments measured with significant unobservable inputs represented 31 percent of total assets and 71 percent of financial instruments measured at fair value as of December 31, 2017. Further information regarding fair value measurement is included in "Management's Discussion and Analysis—Critical Accounting Policies—Fair Value Measurement." If management makes incorrect assumptions or estimates, Farmer Mac may understate or overstate reported financial results, which could materially and adversely affect Farmer Mac's business, operating results, reported assets and liabilities, financial condition, reputation, or capital levels.

Changes in the value or composition of Farmer Mac's investment securities could adversely affect Farmer Mac's business, operating results, financial condition, 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. Adverse financial market conditions may further compound the challenges of estimating fair values for Farmer Mac's securities, as was the case in 2008 after widespread failure of the auction mechanism that had been established to provide liquidity for the auction-rate certificates that Farmer Mac currently holds.

Farmer Mac relies on market observations to determine the fair value of its investment securities, although the market data Farmer Mac relies upon may not reflect the actual sale conditions that Farmer Mac would face when selling its investment securities. For example, the market value of auction-rate certificates held by Farmer Mac depends in large part on the amounts and timing of the expected cash flows on these securities, which may be highly uncertain. Therefore, a change in the amounts or timing of cash flows could materially alter the market price of those securities. Subsequent valuations of these and other investment securities, in light of factors then prevailing, may result in significant changes in the value of Farmer Mac's investment securities. For example, the current market values for the auction-rate certificates held by Farmer Mac are below their amortized cost due to widening credit spreads after purchase. As of December 31, 2017, the fair values of Farmer Mac's auction-rate certificates were $18.8 million, compared to Farmer Mac's amortized cost of $19.7 million, for this class of investment securities.

Farmer Mac also relies on internal models to estimate the fair values of its investment securities and to determine whether credit losses exist, which requires Farmer Mac to exercise judgment about estimates and assumptions used in the models. If Farmer Mac uses incorrect estimates or assumptions in the internal models it develops to estimate the fair value of its investment securities, those models could adversely affect reported income during the reporting period.

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. Farmer Mac's inability to sell the securities in its investment portfolio at or above their estimated fair values 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, or the effects of equity awards for Farmer Mac's officers, directors, and employees.

The trading price of Farmer Mac's Class C non-voting common stock has at times experienced substantial price volatility and may continue to be volatile. For example, from January 2017 to December 2017, the closing price of the stock ranged from $53.94 per share to $80.27 per share. The trading price may fluctuate in response to various factors, including short sales, hedging, the presence or absence of a share repurchase program, or stock market influences in general that are unrelated to Farmer Mac's operating performance. In addition, as a component of compensation for officers, directors, and employees, Farmer Mac typically grants equity awards each year that are based on the Class C non-voting common stock, including stock appreciation rights and restricted stock 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 pursuant to an established trading plan or otherwise, could adversely affect the trading price of Farmer Mac's Class C non-voting common stock. These factors may be exacerbated during periods of low trading volume for Farmer Mac's Class C non-voting common stock, which averaged approximately 54,000 shares daily during 2017, and may have a prolonged negative effect on its trading price or increase price volatility.

Regulatory/Compliance Risk

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

Farmer Mac was established under a statutory charter that is subject to amendment by the U.S. Congress at any time and is regulated by various government agencies, including the FCA and the SEC. As a result, Farmer Mac is exposed to the risk of legal or regulatory penalties, material financial loss, including fines, judgments, damages, and/or settlements, or of loss of reputation, if it fails to comply with applicable laws, regulations, or rules, as well as regulatory requests and self-regulatory organization standards and 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 additional 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 partners and customers operate, is subject to significant legislation and regulations. Specifically, to the extent that current or future legislation or regulations 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 reduced customer demand or profitability, 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 is subject to capital requirements that are subject to 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. In addition, 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 impose restrictions on paying Tier 1-eligible dividends if Tier 1 capital falls below specified thresholds. For more information on 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 or other-than-temporary impairment charges;
- 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 applicable capital requirements; and
- changes in U.S. generally accepted accounting principles.

Political Risk

Farmer Mac is a GSE that may be materially and adversely affected by legislative or political developments that may affect the ongoing operations or continued existence of GSEs.

Farmer Mac is a GSE that is governed by a statutory charter, which is subject to amendment by the U.S. Congress at any time, and regulated by government agencies, including the FCA and the SEC. Although Farmer Mac is not aware of any pending legislative proposals that would adversely affect either the manner in which Farmer Mac conducts its business or the status of Farmer Mac as a GSE at this time, Farmer Mac's ability to effectively conduct its business is subject to risks and uncertainties related to legislative or political developments that may affect the status or operations of GSEs generally. From time to time, legislative initiatives may be commenced that, if successful, could result in the enactment of legislation or the promulgation of regulations that could negatively affect the status of Farmer Mac as a GSE or the manner in which Farmer Mac operates. Farmer Mac cannot predict whether any legislative proposals related to the housing GSEs would also address the continued GSE status of Farmer Mac or modify the current operating structure or authorities of Farmer Mac in any material way. Implementation of any such proposal 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 additional discussion on the rules and regulations governing Farmer Mac's activities.

Human Capital Risk

Farmer Mac's ability to attract and retain qualified employees is critical to the success of its business, and failure to do so or a significant disruption in the continuity of Farmer Mac's employees or any significant executive leadership change may materially adversely affect Farmer Mac's performance, operations, financial condition, or reputation.

Farmer Mac relies on its employees' breadth and depth of knowledge of agricultural and rural utilities lending, financial products, and other areas of expertise to run its business operations successfully. If Farmer Mac is unable to continue to retain and attract qualified employees, Farmer Mac's performance, operations, or financial condition could be materially adversely affected. Additionally, a significant disruption in the continuity of Farmer Mac's employees or any significant executive leadership change could:

- create uncertainty or instability;
- require Farmer Mac and its existing employees to divert or expend additional resources and attention to replace personnel;
- result in a loss of productivity and be disruptive to its daily operations in the interim;
- affect Farmer Mac's ability to successfully execute its business strategies;
- result in the departure of other executives or key employees; or
- negatively impact the public or market perception of Farmer Mac.

Any of these could materially adversely affect Farmer Mac's performance, operations, financial condition, or reputation.

In December 2017, Farmer Mac appointed Lowell L. Junkins, the chairman of its board of directors, to serve as the Acting President and Chief Executive Officer of Farmer Mac following the termination of employment of Farmer Mac's former President and Chief Executive Officer while Farmer Mac conducts a search for a successor. If Farmer Mac is unsuccessful in appointing a new President and Chief Executive Officer with appropriate qualifications and expertise in a timely manner, Farmer Mac's performance, operations, financial condition, or reputation could be materially adversely affected.

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 additional discussion 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 the terms of a sublease that began on October 1, 2011 and ends on August 30, 2024. Farmer Mac also maintains the following additional office locations: (1) 9169 Northpark Drive, Johnston, Iowa 50322, under the terms of a lease that began on October 1, 2017 and ends on June 30, 2023; (2) 5200 N. Palm Avenue, Suite 306, Fresno, California 93704, under the terms of a lease that began on January 1, 2017 and ends on February 29, 2020; and (3) 1065 E. Winding Creek, Suite 200, Eagle, Idaho 83616, under the terms of a lease that began on October 1, 2016 and ends on November 30, 2019. Farmer Mac's offices are suitable and adequate for its current and currently anticipated needs.

Item 3. Legal Proceedings

None.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

(a)Farmer Mac has three classes of common stock outstanding – Class A voting common stock, Class B voting common stock, and Class C non-voting common stock. Ownership of Class A voting common stock is restricted to banks, insurance companies, and other financial institutions or similar entities that are not institutions of the FCS. Ownership of Class B voting common stock is restricted to institutions of the FCS. There are no ownership restrictions on the Class C non-voting common stock. Under the terms of 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 March 1, 2018, there were 963 registered owners of the Class A voting common stock, 77 registered owners of the Class B voting common stock, and 902 registered owners of the Class C non-voting common stock.

The information below represents the high and low closing sales prices for shares of both the Class A and Class C common stock for the periods indicated below, as reported by the New York Stock Exchange:

	Sales Prices			
	Class A Stock		Class C Stock	
	High	Low	High	Low
	(per share)			
2018				
First quarter (through March 1, 2018)	$79.30	$72.22	$82.74	$74.55
2017				
Fourth quarter	$76.34	$66.62	$80.27	$67.02
Third quarter	75.00	62.47	74.77	63.26
Second quarter	65.86	51.55	68.08	53.94
First quarter	69.45	54.51	61.95	55.05
2016				
Fourth quarter	$62.00	$43.48	$58.72	$39.72
Third quarter	52.38	36.60	42.32	33.95
Second quarter	41.61	34.99	43.50	32.62
First quarter	38.00	26.09	40.00	26.36

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 March 2, 2016, Farmer Mac's board of directors declared a quarterly dividend of $0.26 per share on Farmer Mac's common stock payable for first quarter 2016. That dividend

rate was paid quarterly through fourth quarter 2016. On March 1, 2017, Farmer Mac's board of directors declared a quarterly dividend of $0.36 per share on Farmer Mac's common stock payable for first quarter 2017. That dividend was paid quarterly through fourth quarter 2017. On February 28, 2018, Farmer Mac's board of directors declared a quarterly dividend of $0.58 per share on Farmer Mac's common stock payable for first quarter 2018. See "Business—Financing—Equity Issuance" for more information on Farmer Mac's common stock.

Farmer Mac seeks to provide a competitive return on its common stockholders' investments through the payment of cash dividends while retaining sufficient capital to support future growth in its business and to meet regulatory requirements and metrics established by Farmer Mac's board of directors. Farmer Mac expects to maintain a growing and sustainable common dividend and to target a common dividend payout ratio of its core earnings to common stockholders of approximately 30 percent. However, the declaration and payment of future dividends to holders of Farmer Mac's common stock are 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. Also, applicable FCA regulations 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 2, 2018. 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 2017 that was not registered under the Securities Act and not otherwise reported on a Current Report on Form 8-K:

- On October 3, 2017, pursuant to 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 44 shares of its Class C non-voting common stock to the three 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 $72.74 per share, which was the closing price of the Class C non-voting common stock on September 29, 2017, 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 (the "NYSE Comp") and the Standard & Poor's 500 Diversified Financials Index (the "S&P 500 Div Fin") over the period from December 31, 2012 to December 31, 2017. The graph assumes that $100 was invested on December 31, 2012 in each of: Farmer Mac's Class A voting common stock; Farmer Mac's Class C non-voting common stock; the NYSE Comp; and the S&P 500 Div Fin. The graph also assumes that all dividends were reinvested into the same securities throughout the past five years. Farmer Mac obtained the information contained 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 irrespective of 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

The selected consolidated financial data presented below is summarized from Farmer Mac's consolidated balance sheet data as of December 31, 2017 and the five-year period then ended, as well as selected results of operations data for the five-year period then ended. This data should be reviewed in conjunction with the audited consolidated financial statements and related notes and with "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in this Annual Report on Form 10-K.

	As of December 31,				
Summary of Financial Condition:	2017	2016	2015	2014	2013
	(dollars in thousands)				
Cash and cash equivalents	$302,022	$265,229	$1,210,084	$1,363,387	$749,313
Investment securities	2,260,437	2,515,851	2,775,516	1,939,188	2,484,075
Farmer Mac Guaranteed Securities	7,598,188	6,002,916	5,426,621	5,453,901	5,091,600
USDA Securities	2,131,365	2,029,613	1,917,319	1,771,532	1,612,013
Loans, net	5,266,786	4,507,435	3,962,044	3,520,075	3,193,248
Total assets	17,792,274	15,606,020	15,540,354	14,287,821	13,361,780
Notes payable:					
Due within one year	8,089,826	8,440,123	9,111,461	7,353,953	7,338,781
Due after one year	7,432,790	5,222,977	4,967,036	5,471,186	5,001,169
Total liabilities	17,084,128	14,962,373	14,986,634	13,505,992	12,787,311
Stockholders' equity	708,146	643,425	553,517	545,801	332,616
Non-controlling interest(1)	—	222	203	236,028	241,853
Capital:					
Statutory minimum capital requirement	$520,271	$466,498	$462,070	$421,328	$398,531
Core capital	657,061	609,667	564,536	766,296	590,671
Capital in excess of minimum capital requirement	136,790	143,169	102,466	344,968	192,140
Selected Financial Ratios:					
Return on average assets(2)	0.43 %	0.41 %	0.32 %	0.28 %	0.55 %
Return on average common equity(3)	16.64 %	16.78 %	13.83 %	12.42 %	28.17 %
Average equity to assets(4)	4.05 %	3.84 %	3.69 %	3.18 %	2.63 %
Average total equity to assets(5)	4.05 %	3.84 %	4.48 %	4.91 %	4.49 %
Tier 1 capital ratio(6)	12.6 %	12.7 %	10.5 %	11.3 %	6.7 %

(1) On May 14, 2014, Farmer Mac purchased $6.0 million of FALConS from certain holders. On March 30, 2015, Farmer Mac II LLC redeemed all of the outstanding shares of Farmer Mac II LLC Preferred Stock which, in turn, triggered the redemption of all of the outstanding FALConS on that same day. The remaining balance relates to AgVisory, Farmer Mac's former majority-owned subsidiary whose principal activity was to appraise agricultural real estate. On May 1, 2017, Farmer Mac transferred its entire 65% ownership interest in AgVisory back to the limited liability company as a company redemption.

(2) Calculated as net income attributable to common stockholders divided by the simple average of beginning and ending total assets.

(3) Calculated as net income attributable to common stockholders divided by the simple average of beginning and ending stockholders' equity, net of preferred stock, at redemption value and accumulated other comprehensive (loss)/income, net of tax.

(4) Calculated as the simple average of beginning and ending stockholders' equity divided by the simple average of beginning and ending total assets.

(5) Calculated as the simple average of beginning and ending stockholders' equity and non-controlling interest divided by the simple average of beginning and ending total assets.

(6)

In 2016, Farmer Mac adjusted the calculation of its Tier 1 capital ratio to eliminate certain interest rate risk components of the risk weighting of assets to reflect the fact that Farmer Mac pursues a match-funding approach to funding its assets and therefore does not bear material interest rate risk in its portfolio. These interest rate risk components have not been eliminated in the calculations for the Tier 1 capital ratio for the years ended December 31, 2013 through December 31, 2015. For more information about Farmer Mac's Tier 1 capital ratio, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Capital Requirements."

Summary of Operations:	For the Year Ended December 31, 2017	2016	2015	2014	2013
	(in thousands, except per share amounts)				
Interest Income:					
Net interest income after provision for loan losses	$155,939	$139,209	$123,419	$71,308	$109,934
Non-interest income:					
Guarantee and commitment fees	14,114	14,868	14,077	14,694	15,627
Gains on financial derivatives, hedging activities and trading assets	729	3,771	3,751	16,983	30,945
Gains/(losses) on asset sales and debt repurchases	89	(9)	9	(238)	3,575
Gains/(losses) on the sale of real estate owned	1,748	15	(1)	137	1,236
Other income	832	1,823	2,305	1,714	3,057
Non-interest income	17,512	20,468	20,141	33,290	54,440
Non-interest expense	42,765	40,320	35,482	31,492	33,107
Income before income taxes	130,686	119,357	108,078	73,106	131,267
Income tax expense	46,369	42,057	34,239	2,824	33,752
Net income	84,317	77,300	73,839	70,282	97,515
Less: Net loss/(income) attributable to non-controlling interest	165	34	(5,139)	(22,192)	(22,187)
Preferred stock dividends	(13,182)	(13,182)	(13,182)	(9,839)	(3,495)
Loss on retirement of preferred stock	—	—	(8,147)	—	—
Net income attributable to common stockholders	$71,300	$64,152	$47,371	$38,251	$71,833
Allowance for Losses Activity:					
Provision for/(release of) losses	$1,758	$1,002	$208	$(3,166)	$448
Net charge-offs	327	130	3,772	41	4,004
Ending balance	8,866	7,435	6,563	10,127	13,334
Earnings Per Common Share and Dividends:					
Basic earnings per common share	$6.73	$6.12	$4.33	$3.50	$6.64
Diluted earnings per common share	6.60	5.97	4.19	3.37	6.41
Common stock dividends per common share	1.44	1.04	0.64	0.56	0.48

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Financial information included in this report is consolidated to include the accounts of Farmer Mac and its two subsidiaries – Farmer Mac Mortgage Securities Corporation and Farmer Mac II LLC. The accounts of Contour Valuation Services, LLC (which began doing business as AgVisory during first quarter 2016) ("AgVisory"), Farmer Mac's former majority-owned subsidiary, are also included through May 1, 2017, at which time Farmer Mac redeemed its ownership interest. 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, 2017, 2016, and 2015.

Overview

Farmer Mac increased its outstanding business volume by $1.6 billion (9.2 percent) to $19.0 billion during 2017. The primary drivers of the increase were net portfolio growth of $0.7 billion in Farm & Ranch loan

purchases and $0.6 billion in purchases of AgVantage securities. Farmer Mac's overall credit quality deteriorated modestly during 2017, as the total allowance for losses, substandard assets, and 90-day delinquencies as of December 31, 2017 all increased in terms of both dollars and as a percentage of the Farm & Ranch portfolio from their respective 2016 levels. Substandard assets and 90-day delinquencies as a percentage of the Farm & Ranch portfolio remained below Farmer Mac's historical average substandard assets rate and historical average 90-day delinquency rate, respectively.

Farmer Mac also increased the quarterly dividend on all three classes of its common stock by 61 percent from $0.36 per share in each quarter of 2017 to $0.58 per share for first quarter 2018. Farmer Mac expects the new U.S. tax legislation enacted in December 2017 to have a positive effect on core earnings because of the lower federal corporate income tax rate that will apply to Farmer Mac starting in 2018. This was an important factor in Farmer Mac’s decision to significantly increase the amount of its quarterly common stock dividend beginning in 2018, consistent with its common stock dividend policy to target a core earnings payout ratio of approximately 30 percent. This represents the seventh consecutive year that Farmer Mac has increased its quarterly dividend from the prior year, and Farmer Mac believes that the most recent increase is supported by Farmer Mac's earnings potential and overall capital position.

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

Net Income and Core Earnings

Farmer Mac's net income attributable to common stockholders for 2017 was $71.3 million, compared to $64.2 million for 2016 and $47.4 million for 2015.

The $7.1 million increase in net income attributable to common stockholders for 2017 compared to 2016 was primarily driven by increases of $11.3 million after-tax in net interest income and a $1.1 million after-tax increase in net realized gains on the sale of real estate owned properties. The year-over-year increase was offset in part by (1) a $2.7 million after-tax decrease in gains in fair value of financial derivatives and hedged assets; (2) a $1.6 million after-tax increase in non-interest expense in 2017, primarily attributable to higher general and administrative ("G&A") expenses and higher compensation and employee benefits expenses; and (3) the re-measurement of net deferred tax asset due to the enactment of new federal tax legislation (the Tax Cuts and Jobs Act), which resulted in a $1.4 million increase to income tax expense in 2017.

The $16.8 million increase in net income attributable to common stockholders for 2016 compared to 2015 was driven by an increase of $9.4 million after-tax in net interest income and a $1.8 million after-tax increase in gains in fair value of financial derivatives and hedged assets. Also contributing to the increase was the absence in 2016 of (1) an $8.1 million ($6.2 million after-tax) loss recorded in first quarter 2015 resulting from the write-off of deferred issuance costs upon the redemption of the Farmer Mac II LLC Preferred Stock on March 30, 2015; and (2) $3.5 million after-tax in dividend expense recorded during first quarter 2015 on that preferred stock. The increase was offset in part by a $3.1 million after-tax increase in non-interest expense in 2016 primarily attributable to higher G&A expenses, higher compensation and employee benefits expenses, and a decrease in the release of reserve for losses.

Farmer Mac's non-GAAP core earnings for 2017 were $65.6 million, compared to $53.5 million in 2016 and $47.0 million in 2015.

The $12.1 million increase in core earnings for 2017 compared to 2016 was primarily attributable to (1) a $11.9 million after-tax increase in net effective spread; (2) a $1.1 million after-tax increase in net realized gains on the sale of real estate owned properties; and (3) a $0.8 million after-tax increase in guarantee and commitment fee income. The increase in core earnings in 2017 was offset in part primarily by a $1.5 million after-tax increase in operating expenses, driven by higher compensation and employee benefits and G&A expenses. The $0.9 million after-tax increase in compensation and benefits expenses was due primarily to an increase in headcount and employee health insurance costs. The $0.6 million after-tax increase in G&A expenses was attributable primarily to (1) continued investments in technology and business infrastructure; (2) higher legal fees related to general corporate matters, including fees related to the termination of employment of Farmer Mac's former President and Chief Executive Officer in December 2017; (3) an increase in building lease expenses due to new leases for office space entered into during 2017; and (4) expenses related to business development efforts.

The $6.5 million increase in core earnings for 2016 compared to 2015 was primarily attributable to higher total revenues, which included (1) a $3.7 million after-tax increase in net effective spread and (2) a $1.3 million after-tax increase in guarantee and commitment fee income. Also contributing to the increase was a $3.5 million after-tax decrease in preferred dividend expense resulting from the redemption of all outstanding shares of Farmer Mac II LLC Preferred Stock in first quarter 2015. The increase in core earnings in 2016 was offset in part by a $1.8 million after-tax increase in operating expenses and a $0.5 million after-tax increase in the net provision to the allowance for losses.

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

Net Interest Income and Net Effective Spread

Net interest income was $157.6 million for 2017, compared to $140.3 million for 2016 and $125.8 million for 2015. The overall net interest yield was 0.94 percent for 2017, compared to 0.90 percent for 2016 and 0.88 percent for 2015.

The $17.3 million increase in net interest income for 2017 compared to 2016 was driven by net growth in Farm & Ranch loans, on-balance sheet AgVantage Securities, and USDA Securities. Another factor contributing to the increase was the effect of an increase in short-term interest rates on assets and liabilities indexed to LIBOR due to the Federal Reserve's decisions since December 2016 to raise the target range for the federal funds rate. This effect on net interest income occurred because interest expense used to calculate net interest income does not include all the funding expenses related to these assets, specifically the expense on financial derivatives not designated in hedge accounting relationships. This increase in short-term rates on assets and liabilities indexed to LIBOR did not have a similar effect on net effective spread because net effective spread includes interest expense from all funding related to those assets, including interest expense from financial derivatives not designated in hedge accounting relationships. Also contributing to the year-over-year increase was an increase in the net effect of consolidated trusts resulting from an increase in securitization activity of Farm & Ranch loans throughout 2016 and 2017. Farmer Mac earns the difference between the interest income recognized on loans in consolidated trusts and the related interest expense recognized on debt securities of consolidated trusts held by third parties. The increase in net interest income was offset in part by an increase in net yield adjustments related to amortization of premiums and discounts on assets consolidated at fair value. The 4 basis point increase in net interest yield in 2017 compared to 2016 was primarily attributable to a reduction in the average balance of lower-earning cash and cash equivalents and investment securities.

The $14.5 million increase in net interest income for 2016 compared to 2015 was due to several factors. One factor was the effect of an increase in short-term interest rates on assets and liabilities indexed to LIBOR due to the Federal Reserve's decision to raise the target range for the federal funds rate in fourth quarter 2015. As noted above, the effect on net interest income occurred because interest expense does not include the expense on financial derivatives not designated in hedge accounting relationships. Another factor contributing to the year-over-year increase in net interest income was an increase in the average outstanding balance of Farm & Ranch loans, USDA Securities, and AgVantage securities. Also contributing to the increase were (1) lower net yield adjustments related to amortization of premiums and discounts on assets consolidated at fair value driven by slower prepayments on those assets and (2) an increase in the net effect of consolidated trusts due to an increase in securitization activity of Farm & Ranch loans during 2016. The increase was offset in part by (1) higher net yield adjustments from amortization of purchase premiums on certain Farm & Ranch loans and (2) a tighter spread on a large AgVantage security that was refinanced in first quarter 2016 at a shorter maturity than the original security. The 2 basis point increase in net interest yield for 2016 compared to 2015 was primarily driven by a lower average balance in cash and cash equivalents primarily during the second half of 2016.

Net effective spread, a non-GAAP measure, was $141.3 million for 2017, compared to $123.1 million in 2016 and $117.4 million in 2015. In percentage terms, net effective spread for 2017 was 0.91 percent, compared to 0.84 percent in 2016 and 0.85 percent in 2015. Farmer Mac uses net effective spread as an alternative measure to net interest income because management believes it is a useful metric that reflects the economics of the net spread between all the assets owned by Farmer Mac and all related funding, including any associated derivatives, some of which may not be included in net interest income.

For 2017 compared to 2016, the $18.2 million increase in net effective spread in dollars was primarily attributable to (1) growth in on-balance sheet AgVantage securities, Farm & Ranch loans, and other business volume, which increased net effective spread by approximately $15.1 million in 2017; and (2) changes in Farmer Mac's funding strategies and improvements in LIBOR-based short-term funding costs for floating rate assets indexed to LIBOR, which added approximately $4.0 million in 2017. Net effective spread in percentage terms increased 7 basis points in 2017 compared to 2016 primarily due to the decrease in the average balance of lower-earning cash and cash equivalents and investment securities, which added approximately 5 basis points to net effective spread. Also contributing to the increase were the effects of changes in Farmer Mac's funding strategy and a favorable LIBOR-based funding market, which added approximately 3 basis points in 2017.

For 2016 compared to 2015, the $5.7 million increase in dollars was attributable to growth in outstanding business volume. The 1 basis point contraction in net effective spread in percentage terms was primarily attributable to a higher average balance in lower-earning investment securities in 2016 compared to 2015.

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 7 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

Business Volume

Farmer Mac added $4.7 billion of new business volume during 2017. The new business volume included purchases of $2.4 billion of AgVantage securities, purchases of $1.1 billion of newly originated Farm & Ranch loans, Farm & Ranch loans added under LTSPCs of $554.7 million, purchases of $369.8 million of USDA Securities, the issuance of $161.9 million of Farmer Mac Guaranteed USDA Securities, and purchases of Rural Utilities loans of $137.3 million. Also during 2017, Farmer Mac fully refinanced a $1.0 billion AgVantage security that matured in April 2017 into three new on-balance sheet AgVantage securities. Previously, $970.0 million of the $1.0 billion maturing AgVantage security was reported as off-balance sheet business volume because it was owned by third-party investors. Taking into account maturities and paydowns on existing assets, Farmer Mac's outstanding business volume was $19.0 billion as of December 31, 2017, an increase of $1.6 billion from December 31, 2016.

Capital

As of December 31, 2017, Farmer Mac's core capital level was $657.1 million, which was $136.8 million above the minimum capital level required by Farmer Mac's statutory charter. As of December 31, 2016, Farmer Mac's core capital level was $609.7 million, which was $143.2 million above the minimum capital requirement. The decrease in capital in excess of the minimum capital level was due primarily to an increase in minimum capital required to support the growth of on-balance sheet assets during 2017. In particular, the refinancing of a $1.0 billion AgVantage security that matured in April 2017 into three new on-balance sheet AgVantage securities significantly increased Farmer Mac's on-balance sheet assets because $970.0 million of the refinanced security was previously held by third party investors and reported as off-balance sheet business volume. In addition, Farmer Mac elected to adopt Accounting Standard Update ("ASU") 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," for the year ended December 31, 2017, which resulted in an increase to "Accumulated other comprehensive income, net of tax" and a corresponding decrease to "Retained earnings" of $9.1 million. The decrease in capital in excess of the minimum capital level was offset in part by an increase in retained earnings during 2017, excluding the effects of the adoption of ASU 2018-02. See Note 2(r) to the consolidated financial statements for more information about the adoption of ASU 2018-02 and the effect on Farmer Mac's consolidated financial statements.

In August 2017, Farmer Mac's board of directors approved the continuation of a share repurchase program on its existing terms through August 2019 and authorized Farmer Mac to repurchase up to $5.4 million of its outstanding Class C non-voting common stock. This is the amount that was remaining under the share repurchase program that Farmer Mac's board of directors originally authorized in third quarter 2015 for the repurchase of up to $25 million of outstanding Class C non-voting common stock. Farmer Mac did not repurchase shares during 2017 under this program. Farmer Mac also did not repurchase any shares under this program in the last three quarters of 2016, but did repurchase 307,000 shares in first quarter 2016. As of December 31, 2017, Farmer Mac had repurchased approximately 668,000 shares of Class C non-voting common stock at a cost of approximately $19.6 million under the share repurchase program.

Credit Quality

As of December 31, 2017, Farmer Mac's total allowance for losses was $8.9 million (0.13 percent of the Farm & Ranch portfolio), compared to $7.4 million (0.12 percent of the Farm & Ranch portfolio) as of December 31, 2016. The $1.5 million increase in 2017 to the provision to the allowance for losses was primarily attributable to net volume growth in on-balance sheet Farm & Ranch loans and downgrades in risk ratings.

As of December 31, 2017, Farmer Mac's substandard assets were $221.3 million (3.2 percent of the Farm & Ranch portfolio), compared to $165.2 million (2.7 percent of the Farm & Ranch portfolio) as of December 31, 2016. The increase in substandard assets from 2016 was primarily driven by credit downgrades in on-balance sheet loans across a diverse set of commodities. As of December 31, 2017, the commodity groups that experienced the largest year-over-year increases in substandard assets were crops, livestock, and permanent plantings.

As of December 31, 2017, Farmer Mac's 90-day delinquencies were $48.4 million (0.71 percent of the Farm & Ranch portfolio), compared to $21.0 million (0.34 percent of the Farm & Ranch portfolio) as of December 31, 2016. The year-over-year increase in 90-day delinquencies was primarily attributable to the delinquencies of several larger loans and certain crop and permanent planting loans due to factors specific to the borrower and not related to macroeconomic factors in the agricultural economy. In particular, $15.3 million permanent planting loans to a single borrower became delinquent in first quarter 2017 and accounts for over half of the year-over-year increase in 90-day delinquencies.

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

New Federal Tax Legislation

The Tax Cuts and Jobs Act was enacted on December 22, 2017. This new federal tax legislation provides for significant changes to the U.S. Internal Revenue Code that was in effect through the end of 2017 and includes a reduction of the federal corporate income tax rate from 35 percent to 21 percent effective January 1, 2018. As a result of this reduction in the tax rate, Farmer Mac re-measured its net deferred tax asset at the new 21 percent tax rate and reduced its value by $1.4 million. Accordingly, Farmer Mac recorded an increase to income tax expense of $1.4 million during fourth quarter 2017. Farmer Mac also elected to adopt ASU 2018-02 "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," for the year ended December 31, 2017. As a result, Farmer Mac recorded an increase to "Accumulated other comprehensive income, net of tax" and a corresponding decrease to "Retained earnings" of $9.1 million. Farmer Mac estimates that its annual effective tax rate beginning in 2018 will be approximately 21 percent, which reflects the federal corporate income tax rate under the new federal tax legislation. See Note 2(l) and Note 2(r) to the consolidated financial statements for more information about the accounting policy for income taxes and about the adoption of ASU 2018-02 and the effect on Farmer Mac's consolidated financial statements.

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. The critical accounting policies that are both important to the presentation of Farmer Mac's financial condition and results of operations and require complex, subjective judgments are the accounting policies for the allowance for losses and fair value measurement.

Allowance for Losses

Farmer Mac maintains an allowance for losses to cover estimated probable losses incurred as of the balance sheet date on loans held for investment ("allowance for loan losses") and loans underlying off-balance sheet Farmer Mac Guaranteed Securities and LTSPCs ("reserve for losses") based on available information. For purposes of this accounting policy, the allowance for loan losses and the reserve for losses are described collectively as the "allowance for losses" because the estimation methodology is identical for loans that are held for investment and for loans underlying off-balance sheet Farmer Mac Guaranteed Securities and LTSPCs. Disaggregation by commodity type is performed, where appropriate, in analyzing the need for an allowance for losses.

The allowance for loan losses increases through periodic provisions for loan losses that are charged against net interest income. The reserve for losses increases through provisions for losses that are charged to non-interest expense. Both the allowance for loan losses and reserve for losses decrease by charge-offs for actual losses, net of recoveries. Charge-offs represent losses on the outstanding principal balance, any interest payments previously accrued or advanced, and expected costs of liquidation. Negative provisions, or releases of allowance for losses, occur when the estimate of probable losses as of the end of a period is lower than the estimate at the beginning of the period.

The total allowance for losses consists of a general allowance for losses and a specific allowance for individually identified impaired loans.

General Allowance for Losses

Farm & Ranch

Farmer Mac's methodology for determining its general allowance for losses incorporates Farmer Mac's automated loan classification system. That system scores loans based on criteria such as historical repayment performance, indicators of current financial condition, loan seasoning, loan size, and loan-to-value ratio. For purposes of the loss allowance methodology, the loans in Farmer Mac's portfolio of loans and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs have been scored and classified for each calendar quarter since first quarter 2000. The allowance methodology captures the migration of loan scores across concurrent and overlapping three-year time horizons and calculates loss rates separately within each loan classification for (1) loans held for investment and (2) loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs. The calculated loss rates are applied to the current classification distribution of unimpaired loans in Farmer Mac's portfolio to estimate probable losses, based on the assumption that the historical credit losses and trends used to calculate loss rates will continue in the future. Management evaluates this assumption by taking into consideration various 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.

Management believes that this methodology produces a reasonable estimate of probable losses, as of the balance sheet date, for all loans included in the Farm & Ranch line of business, including loans held for investment and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs.

Rural Utilities

Farmer Mac separately evaluates the Rural Utilities loans it holds for investment and loans underlying LTSPCs to estimate any probable losses inherent in those assets. Farmer Mac has not provided an allowance for losses for the portfolio segment related to the Rural Utilities line of business based on the credit quality of the collateral supporting rural utilities assets.

Specific Allowance for Impaired Loans

Farmer Mac individually analyzes certain loans in its portfolio for impairment. Farmer Mac's individually identified impaired loans generally include loans 90 days or more past due, in foreclosure, restructured, in bankruptcy, and certain performing loans that have previously been delinquent or are secured by real estate that produces agricultural commodities or products that have been identified as under stress.

For individually identified impaired loans with an updated appraisal, other updated collateral valuation, or management's estimate of discounted collateral value, this analysis compares the measurement of the fair value of the collateral to the total recorded investment in the loan. The total recorded investment in the loan includes principal, interest, and advances, net of any charge-offs. In the event that an individually analyzed loan's collateral value does not equal or exceed its total recorded investment, Farmer Mac provides a specific allowance for loss in the amount of the difference between the recorded investment and fair value, less estimated costs to liquidate the collateral. Estimated selling costs are based on historical selling costs incurred by Farmer Mac or management's best estimate of selling costs for a particular property. For individually identified impaired loans without updated valuations, this analysis is performed in the aggregate considering similar risk characteristics of the loans and historical statistics. Farmer Mac considers appraisals that are more than two years old as of the reporting date not to be updated for purposes of individually analyzing loans.

Farmer Mac uses a risk-based approach in determining the necessity of obtaining updated appraisals on impaired loans. For example, larger exposures associated with highly improved and specialized collateral will generally receive updated appraisals once the loans are identified as impaired. In addition, updated appraisals are always obtained during the foreclosure process. Depending on the risk factors associated with the loan and underlying collateral, which can vary widely depending on the circumstances of the loan and collateral, this can occur early in the foreclosure process, while in other instances this may occur just prior to the transfer of title. As part of its routine credit review process, Farmer Mac often will exercise judgment in discounting an appraised value due to local real estate trends or the condition of the property

(e.g., following an inspection by Farmer Mac or the servicer). In addition, a property's appraised value may be discounted based on the market's reaction to Farmer Mac's asking price for sale of the property.

Further information regarding 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(j) 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 impact 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 prior to 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, USDA 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 and hedging activities 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, 2017, Farmer Mac's assets and liabilities recorded at fair value included financial instruments valued at $5.5 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 31 percent of total assets and 71 percent of financial instruments measured at fair value as of December 31, 2017.

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

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

Core Earnings and Core Earnings Per Share

Core earnings and core earnings per share principally differ from net income attributable to common stockholders and earnings per common share, respectively, by excluding the effects of fair value fluctuations. These fluctuations are not expected to have a cumulative net impact on Farmer Mac's financial condition or results of operations reported in accordance with GAAP if the related financial instruments are held to maturity, as is expected. Among other items, these fair value fluctuations have included unrealized gains or losses on financial derivatives and hedging activities. Variation margin is exchanged between Farmer Mac and its counterparties on both its cleared and non-cleared derivatives portfolios. Prior to first quarter 2017, Farmer Mac accounted for variation margin as collateral and associated unrealized gains or losses on its centrally cleared derivative contracts. However, beginning in first quarter 2017, the variation margin amounts exchanged between Farmer Mac and its counterparties on cleared derivatives are considered as settlement rather than collateral as a result of a change in variation margin rules implemented by the Chicago Mercantile Exchange ("CME"), the central clearinghouse used by Farmer Mac. Specifically, effective January 3, 2017, CME began to deem the exchange of variation margin between derivatives counterparties as a partial settlement of each respective derivative contract rather than as collateral pledged by a counterparty. Accordingly, beginning in first quarter 2017, Farmer Mac presents its cleared derivatives portfolio net of variation margin payments on its consolidated balance sheets and recognizes realized gains or losses as a result of these payments on its consolidated statements of operations. In October 2017, the U.S. Commodity Futures Trading Commission ("CFTC") issued an interpretive letter to the CME confirming that, under the Commodity Exchange Act, the exchange of variation margin payments on cleared swap positions constitutes settlement of the outstanding exposure and not collateral against it and that CME rules must reflect this interpretation. However, the CFTC acknowledged the economic equivalence between the settlement of and the pledge of collateral against outstanding exposure under a derivatives contract, and Farmer Mac also believes that the economic character of these transactions remains the same as they were before the CME rule change. Even though these variation margin amounts are accounted for as realized gains or losses on financial derivatives and hedging activities as a result of the CME rule change and subsequent CFTC interpretation, this is not expected to have a cumulative net impact on Farmer Mac's financial condition or results of operations reported in accordance with GAAP because the related financial instruments are expected to be held to maturity. Therefore, since the beginning of first quarter 2017, Farmer Mac has excluded the effects of realized gains or losses resulting from the exchange of variation margin on its cleared derivatives portfolio in its calculations of core earnings and core earnings per share to present them on a consistent basis with quarters prior to 2017.

Core earnings and core earnings per share also differ from net income attributable to common stockholders and earnings per common share, respectively, by excluding specified infrequent or unusual transactions that 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. Accordingly, the one-time, non-cash charge to income tax expense due to the re-measurement of the net deferred tax asset was excluded from core earnings and core earnings per share. Farmer Mac re-measured its net deferred tax asset at a lower federal corporate tax rate due to the enactment of new tax legislation on December 22, 2017. This charge is excluded from core earnings and core earnings per share because it is not a frequently occurring transaction, is a non-cash charge, and is not indicative of future operating results. Additionally, the loss from retirement of the Farmer Mac II LLC Preferred Stock in first quarter 2015 was excluded from core earnings and core earnings per share during that quarter because it was not a frequently occurring transaction and not indicative of future operating results. This was also consistent with Farmer Mac's previous treatment of these types of origination costs associated with securities underwriting that are capitalized and deferred during the life of the security. For a reconciliation of Farmer Mac's net income attributable to common stockholders to core earnings and of earnings per common share to core earnings per share, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations."

Net Effective Spread

Farmer Mac uses net effective spread to measure the net spread Farmer Mac earns between its interest-earning assets and the related net funding costs of these assets. Net effective spread differs from net interest income and net interest yield because it excludes (1) the amortization of premiums and discounts on assets consolidated at fair value that are amortized as adjustments to yield in interest income over the contractual or estimated remaining lives of the underlying assets; and (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." 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 for purposes of determining Farmer Mac's core earnings.

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

Effective in fourth quarter 2017, Farmer Mac revised its methodology for calculating net effective spread to also include the net effects of terminations or net settlements on financial derivatives and hedging activities. The inclusion of these items in net effective spread, along with the accrual of contractual amounts due for undesignated financial derivatives described above, is intended to reflect management's 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. Specifically, these net effects of terminations or net settlements on financial derivatives and hedging activities include:

1. The net effects of cash settlements on agency forward contracts on the debt of other GSEs. These agency forward contracts are used as short-term economic hedges of the issuance of debt to manage interest rate risk on loans that Farmer Mac has committed to acquire but has not yet purchased. Farmer Mac records the realized gains or losses on settlements of agency forward contracts used as short-term economic hedges of the issuance of debt in the consolidated statements of operations in the period in which they occur. Under the revised methodology, for net effective spread 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. Previously, for core earnings purposes, these amounts had been deferred and amortized and were included within the "Other" item that is part of the "Revenues" component of core earnings.

2. The net effects of cash settlements on futures contracts involving U.S. Treasury securities. Similar to the net effects of cash settlements on agency forward contracts, the net effects of cash settlements on futures contracts involving U.S. Treasury securities are used as short-term economic hedges of the issuance of debt and are reported in the consolidated statements of operations in the period in which they occur. Under the revised methodology, for net effective spread 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. Previously, for core earnings purposes, these realized gains and losses had been recognized in the period in which they occurred within the "Other" item that is part of the "Revenues" component of core earnings.
3. The net effects of initial cash payments that Farmer Mac receives 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 these swaps are recognized in "Gains on financial derivatives and hedging activities," whereas the offsetting discount on the associated hedged debt is amortized over the term of the debt as an adjustment to its yield. This results in a timing difference between the recognition of "Gains on financial derivatives and hedging activities" and the recognition of the discount in "Total interest expense." Additionally, the initial cash payments included in "Gains on financial derivatives and hedging activities" had been excluded from net effective spread, whereas the amortization of the discount included in interest expense had been a component of net effective spread. The initial cash payments received by Farmer Mac vary depending upon the number of the aforementioned type of swaps it executes during a quarter. Under the revised methodology, for net effective spread purposes, these initial cash payments are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years, and offset the amortization of the discount on the associated hedged debt. Previously, for core earnings purposes, these initial cash payments had been recognized in the period in which they were received within the “Other” item that is part of the "Revenues" component of core earnings.

For a reconciliation of net interest income and net interest yield to net effective spread, see Table 7 in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Net Interest Income."

All prior period information has been recast to reflect the revised net effective spread methodology. This change in methodology had a corresponding effect on core earnings and core earnings per share. Reconciliations to recast core earnings, core earnings per share, and net effective spread for the years ended December 31, 2016 and 2015 are presented in the following tables.

Table 1
Reconciliation of Core Earnings to Core Earnings (Recast)

	For the Year Ended December 31,					
	2016			2015		
	Dollars	Per Basic Share	Per Diluted Share	Dollars	Per Basic Share	Per Diluted Share
	(in thousands, except per share amounts)					
Core Earnings	$53,791	$5.13	$ 5.01	$46,975	$4.29	$ 4.15
Less reconciling items:						
Net effects of terminations or net settlements on financial derivatives and hedging activities	479	0.05	0.04	(92)	(0.01)	(0.01)
Income tax effect related to reconciling items	(169)	(0.02)	(0.01)	32	—	—
Core Earnings (recast)	$53,481	$5.10	$ 4.98	$47,035	$4.30	$ 4.16

Reconciliation of Net Effective Spread to Net Effective Spread (Recast)

	For the Year Ended December 31,			
	2016		2015	
	Dollars	Yield	Dollars	Yield
	(dollars in thousands)			
Net Effective Spread	$ 125,102	0.86 %	$ 119,380	0.87 %
Amortization of losses due to terminations or net settlements on financial derivatives and hedging activities	(2,030)	(0.02)%	(1,952)	(0.02)%
Net Effective Spread (recast)	$ 123,072	0.84 %	$ 117,428	0.85 %

Results of Operations

Farmer Mac's net income attributable to common stockholders for 2017 was $71.3 million ($6.60 per diluted common share), compared to $64.2 million ($5.97 per diluted common share) for 2016, and $47.4 million ($4.19 per diluted common share) for 2015. Farmer Mac's non-GAAP core earnings for 2017 were $65.6 million ($6.08 per diluted common share), compared to $53.5 million ($4.98 per diluted common share) for 2016, and $47.0 million ($4.16 per diluted common share) for 2015. For more information about the changes in net income attributable to common stockholders and core earnings, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Overview—Net Income and Core Earnings."

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

Table 2
Reconciliation of Net Income Attributable to Common Stockholders to Core Earnings

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands, except per share amounts)		
Net income attributable to common stockholders	$71,300	$64,152	$47,371
Less reconciling items:			
Gains on financial derivatives and hedging activities due to fair value changes	9,499	13,628	10,924
Unrealized (losses)/gains on trading securities	(24)	1,460	1,220
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(1,327)	(849)	(1,319)
Net effects of terminations or net settlements on financial derivatives and hedging activities[(1)]	2,674	2,178	(699)
Loss on retirement of Farmer Mac II LLC Preferred Stock[(2)]	—	—	(8,147)
Re-measurement of net deferred tax asset due to enactment of new tax legislation	(1,365)	—	—
Income tax effect related to reconciling items	(3,788)	(5,746)	(1,643)
Sub-total	5,669	10,671	336
Core earnings	$65,631	$53,481	$47,035
Composition of Core Earnings:			
Revenues:			
Net effective spread[(3)]	$141,303	$123,072	$117,428
Guarantee and commitment fees[(4)]	20,350	19,170	17,155
Other[(5)]	935	2,070	1,239
Total revenues	162,588	144,312	135,822
Credit related expense/(income) (GAAP):			
Provision for losses	1,758	1,002	208
REO operating expenses	23	39	91
(Gains)/losses on sale of REO	(1,748)	(15)	1
Total credit related expense	33	1,026	300
Operating expenses (GAAP):			
Compensation and employee benefits	24,233	22,772	22,047
General and administrative	15,959	15,109	13,111
Regulatory fees	2,500	2,463	2,413
Total operating expenses	42,692	40,344	37,571
Net earnings	119,863	102,942	97,951
Income tax expense[(6)]	41,215	36,313	32,595
Net (loss)/income attributable to non-controlling interest (GAAP)	(165)	(34)	5,139
Preferred stock dividends (GAAP)	13,182	13,182	13,182
Core earnings	$65,631	$53,481	$47,035
Core earnings per share:			
Basic	$6.20	$5.10	$4.30
Diluted	6.08	4.98	4.16
Weighted-average shares:			

Basic	10,594	10,477	10,949
Diluted	10,803	10,746	11,309

(1) Effective in fourth quarter 2017, Farmer Mac revised its methodology for calculating net effective spread, which is a component of core earnings, to also include the net effects of terminations or net settlements on financial derivatives and hedging activities. All prior period information has been recast to reflect the revised methodology. For more information, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread."

(2) Relates to the write-off of deferred issuance costs as a result of the retirement of Farmer II LLC Preferred Stock.

(3) 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 7 for a reconciliation of net interest income to net effective spread.

(4) 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.

(5) 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 hedging activities, 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.

(6) Includes the tax impact of non-GAAP reconciling items between net income attributable to common stockholders and core earnings. The year ended December 31, 2017 includes $0.9 million of tax benefits resulting from the vesting of restricted stock and the exercise of SARs under new accounting guidance for stock-based awards that became effective in first quarter 2017.

Table 3

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

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands, except per share amounts)		
GAAP - Basic EPS	$6.73	$6.12	4.33
Less reconciling items:			
Gains on financial derivatives and hedging activities due to fair value changes	0.90	1.30	1.00
Unrealized (losses)/gains on trading securities	—	0.14	0.11
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.13)	(0.08)	(0.12)
Net effects of terminations or net settlements on financial derivatives and hedging activities	0.25	0.21	(0.07)
Loss on retirement of Farmer Mac II LLC Preferred Stock	—	—	(0.74)
Re-measurement of net deferred tax asset due to enactment of new tax legislation	(0.13)	—	—
Income tax effect related to reconciling items	(0.36)	(0.55)	(0.15)
Sub-total	0.53	1.02	0.03
Core Earnings - Basic EPS	$6.20	$5.10	$4.30
Shares used in per share calculation (GAAP and Core Earnings)	10,594	10,477	10,949

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

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands, except per share amounts)		
GAAP - Diluted EPS	$6.60	$5.97	$4.19
Less reconciling items:			
Gains on financial derivatives and hedging activities due to fair value changes	0.87	1.26	0.97
Unrealized (losses)/gains on trading securities	—	0.14	0.11
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(0.12)	(0.08)	(0.12)
Net effects of terminations or net settlements on financial derivatives and hedging activities	0.25	0.20	(0.06)
Loss on retirement of Farmer Mac II LLC Preferred Stock	—	—	(0.72)
Re-measurement of net deferred tax asset due to enactment of new tax legislation	(0.13)	—	—
Income tax effect related to reconciling items	(0.35)	(0.53)	(0.15)
Sub-total	0.52	0.99	0.03
Core Earnings - Diluted EPS	$6.08	$4.98	$4.16
Shares used in per share calculation (GAAP and Core Earnings)	10,803	10,746	11,309

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

1. Gains on financial derivatives and hedging activities due to fair value changes. The table below calculates the non-GAAP reconciling item for gains/(losses) on financial derivatives and hedging activities due to fair value changes.

Table 4

Non-GAAP Reconciling Items for Unrealized Gains/(Losses) on Financial Derivatives and Hedging Activities

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Fair value hedges:			
(Losses)/gains due to fair value changes (see Table 9)	$ (719)	$ 5,043	$ 9,065
No hedge designation:			
Gains due to fair value changes (see Table 9)	10,218	8,585	1,859
Gains on financial derivatives and hedging activities due to fair value changes	$ 9,499	$ 13,628	$ 10,924

2. Unrealized (losses)/gains on trading securities. The unrealized (losses)/gains on trading securities are reported on Farmer Mac's consolidated statements of operations, which represent changes during the period in fair values for trading assets remaining on Farmer Mac's balance sheet as of the end of the reporting period.
3. Amortization of premiums/discounts and deferred gains on assets consolidated at fair value. The amount of this non-GAAP reconciling item is the recorded amount of premium, discount, or deferred gain amortization during the reporting period on those assets for which the premium, discount, or deferred gain

was based on the application of an accounting principle (e.g., consolidation of variable interest entities) rather than on a cash transaction (e.g., a purchase price premium or discount).
4. The net effect of terminations or net settlements on financial derivatives and hedging activities. 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 and hedging activities," whereas the economically offsetting discount on the associated hedged debt is amortized over the term of the debt as an adjustment to its yield. For core earnings purposes, these initial cash payments are deferred and amortized as net yield adjustments over the term of the related debt, which generally ranges from 3 to 15 years.

5. The loss on retirement of the Farmer Mac II LLC Preferred Stock. This loss in first quarter 2015 has been excluded from core earnings because it is not a frequently occurring transaction and is not indicative of future operating results. This is also consistent with Farmer Mac's previous treatment of these types of origination costs associated with securities underwriting that are capitalized and deferred during the life of the security.
6. Re-measurement of net deferred tax asset due to enactment of new tax legislation. This non-recurring, non-cash charge to income tax expense in fourth quarter 2017 was the result of a re-measurement by Farmer Mac of its net deferred tax asset at a lower federal corporate tax rate due to enactment of the new tax legislation on December 22, 2017. This charge has been excluded from core earnings because it is not the result of frequently occurring transactions, is not indicative of future operating results, and is a non-cash charge. Farmer Mac re-measured its net deferred tax asset at the newly-enacted 21 percent corporate tax rate which will be applied when temporary differences that gave rise to the net deferred tax asset will be realized or settled.
The following sections provide more detail regarding specific components of Farmer Mac's results of operations.

Net Interest Income. The following table provides information regarding interest-earning assets and funding for the years ended December 31, 2017, 2016, and 2015. 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 5

	For the Year Ended December 31, 2017			December 31, 2016			December 31, 2015		
	Average Balance	Income/ Expense	Average Rate	Average Balance	Income/ Expense	Average Rate	Average Balance	Income/ Expense	Average Rate
	(dollars in thousands)								
Interest-earning assets:									
Cash and investments	$2,703,306	$34,586	1.28 %	$3,572,018	$27,042	0.76 %	$3,310,948	$13,338	0.40 %
Loans, Farmer Mac Guaranteed Securities and USDA Securities(1)	12,763,456	320,932	2.51 %	11,058,332	252,406	2.28 %	10,453,343	231,342	2.21 %
Total interest-earning assets	15,466,762	355,518	2.30 %	14,630,350	279,448	1.91 %	13,764,291	244,680	1.78 %
Funding:									
Notes payable due within one year	5,148,548	49,318	0.96 %	7,304,519	37,648	0.52 %	6,013,079	13,472	0.22 %
Notes payable due after one year(2)	9,683,124	154,789	1.60 %	6,882,357	105,828	1.54 %	7,235,869	108,479	1.50 %
Total interest-bearing liabilities(3)	14,831,672	204,107	1.38 %	14,186,876	143,476	1.01 %	13,248,948	121,951	0.92 %
Net non-interest-bearing funding	635,090	—		443,474	—		515,343	—	
Total funding	15,466,762	204,107	1.32 %	14,630,350	143,476	0.98 %	13,764,291	121,951	0.89 %
Net interest income/yield prior to consolidation of certain trusts	15,466,762	151,411	0.98 %	14,630,350	135,972	0.93 %	13,764,291	122,729	0.89 %
Net effect of consolidated trusts(4)	1,251,048	6,236	0.50 %	905,005	4,302	0.48 %	546,022	3,078	0.56 %
Net interest income/yield	$16,717,810	$157,647	0.94 %	$15,535,355	$140,274	0.90 %	$14,310,313	$125,807	0.88 %

(1)

Excludes interest income of $45.0 million, $32.5 million, and $20.1 million in 2017, 2016, and 2015 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 $38.8 million, $28.2 million, and 17.1 million in 2017, 2016, and 2015, 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.

Net interest income was $157.6 million for 2017, compared to $140.3 million for 2016 and $125.8 million for 2015. The overall net interest yield was 0.94 percent for 2017, compared to 0.90 percent for 2016 and 0.88 percent for 2015.

The $17.3 million increase in net interest income for 2017 compared to 2016 was driven by net growth in Farm & Ranch loans, on-balance sheet AgVantage Securities, and USDA Securities. Another factor contributing to the increase was the effect of an increase in short-term interest rates on assets and liabilities indexed to LIBOR due to the Federal Reserve's decisions since December 2016 to raise the target range for the federal funds rate. This effect on net interest income occurred because interest expense used to calculate net interest income does not include all the funding expenses related to these assets, specifically the expense on financial derivatives not designated in hedge accounting relationships. This increase in short-term rates on assets and liabilities indexed to LIBOR did not have a similar effect on net effective spread because net effective spread includes interest expense from all funding related to those assets, including interest expense from financial derivatives not designated in hedge accounting relationships. Also contributing to the year-over-year increase was an increase in the net effect of consolidated trusts resulting from an increase in securitization of Farm & Ranch loans throughout 2016 and 2017. Farmer Mac earns the difference between the interest income recognized on loans in consolidated trusts and the related interest expense recognized on debt securities of consolidated trusts held by third parties. The increase in net interest income was offset in part by an increase in net yield adjustments related to amortization of premiums and discounts on assets consolidated at fair value. The 4 basis point increase in net interest yield in 2017 compared to 2016 was primarily attributable to a reduction in the average balance of lower-earning cash and cash equivalents and investment securities.

The $14.5 million increase in net interest income for 2016 compared to 2015 was due to several factors. One factor was the effect of an increase in short-term interest rates on assets and liabilities indexed to LIBOR due to the Federal Reserve's decision to raise the target range for the federal funds rate in fourth quarter 2015. As noted above, the effect on net interest income occurred because interest expense does not include the expense on financial derivatives not designated in hedge accounting relationships. Another factor contributing to the year-over-year increase in net interest income was an increase in the average outstanding balance of Farm & Ranch loans, USDA Securities, and AgVantage securities. Also contributing to the increase were (1) lower net yield adjustments related to amortization of premiums and discounts on assets consolidated at fair value driven by slower prepayments on those assets and (2) an increase in the net effect of consolidated trusts due to an increase in securitization activity of Farm & Ranch loans during 2016. The increase was offset in part by (1) higher net yield adjustments from amortization of purchase premiums on certain Farm & Ranch loans and (2) a tighter spread on a large AgVantage security that was refinanced in first quarter 2016 at a shorter maturity than the original security. The 2 basis point increase in net interest yield for 2016 compared to 2015 was primarily driven by a lower average balance in cash and cash equivalents primarily during the second half of 2016.

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

Table 6

	2017 vs 2016 Increase/(Decrease) Due to			2016 vs 2015 Increase/(Decrease) Due to		
	Rate	Volume	Total	Rate	Volume	Total
	(in thousands)					
Income from interest-earning assets:						
Cash and investments	$15,303	$(7,759)	$7,544	$12,576	$1,128	$13,704
Loans, Farmer Mac Guaranteed Securities and USDA Securities	27,222	41,304	68,526	7,403	13,661	21,064
Total	42,525	33,545	76,070	19,979	14,789	34,768
Expense from other interest-bearing liabilities	53,847	6,784	60,631	12,535	8,990	21,525
Change in net interest income prior to consolidation of certain trusts[1]	$(11,322)	$26,761	$15,439	$7,444	$5,799	$13,243

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

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

Table 7

	For the Year Ended December 31,					
	2017		2016		2015	
	Dollars	Yield	Dollars	Yield	Dollars	Yield
	(dollars in thousands)					
Net interest income/yield	$157,647	0.94 %	$140,274	0.90 %	$125,807	0.88 %
Net effects of consolidated trusts	(6,236)	0.04 %	(4,302)	0.03 %	(3,078)	0.01 %
Expense related to undesignated financial derivatives	(10,261)	(0.07)%	(11,480)	(0.07)%	(5,649)	(0.04)%
Amortization of premiums/discounts on assets consolidated at fair value	1,191	0.01 %	610	— %	2,300	0.02 %
Amortization of losses due to terminations or net settlements on financial derivatives and hedging activities	(1,038)	(0.01)%	(2,030)	(0.02)%	(1,952)	(0.02)%
Net effective spread	$141,303	0.91 %	$123,072	0.84 %	$117,428	0.85 %

Net effective spread was $141.3 million for 2017 compared to $123.1 million for 2016 and $117.4 million for 2015. In percentage terms, net effective spread for 2017 was 0.91 percent compared to 0.84 percent for 2016 and 0.85 percent for 2015.

For 2017 compared to 2016, the $18.2 million increase in net effective spread in dollars was primarily attributable to (1) growth in on-balance sheet AgVantage securities, Farm & Ranch loans, and other business volume, which increased net effective spread by approximately $15.1 million in 2017; and (2) changes in Farmer Mac's funding strategies and improvements in LIBOR-based short-term funding costs for floating rate assets indexed to LIBOR, which added approximately $4.0 million in 2017. Net effective spread in percentage terms increased 7 basis points in 2017 compared to 2016 primarily due to the decrease in the average balance of lower-earning cash and cash equivalents and investment securities, which added approximately 5 basis points to net effective spread. Also contributing to the increase were the effects of changes in Farmer Mac's funding strategy and a favorable LIBOR-based funding market, which added approximately 3 basis points in 2017.

For 2016 compared to 2015, the $5.7 million increase in dollars was attributable to growth in outstanding business volume. The 1 basis point contraction in net effective spread in percentage terms was primarily attributable to a higher average balance in lower-earning investment securities in 2016 compared to 2015.

See Note 14 to the consolidated financial statements for more information regarding 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.

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Provision for and Release of Allowance for Loan Losses and Reserve for Losses. The following table summarizes the components of Farmer Mac's total allowance for losses for each year in the three-year period ended December 31, 2017:

Table 8

	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses
	(in thousands)		
Balance as of January 1, 2015	$5,864	$ 4,263	$ 10,127
Provision for/(release of) losses	2,388	(2,180)	208
Charge-offs	(3,772)	—	(3,772)
Balance as of December 31, 2015	$4,480	$ 2,083	$ 6,563
Provision for/(release of) losses	1,065	(63)	$ 1,002
Charge-offs	(130)	—	(130)
Balance as of December 31, 2016	$5,415	$ 2,020	$ 7,435
Provision for losses	1,708	50	1,758
Charge-offs	(327)	—	(327)
Balance as of December 31, 2017	$6,796	$ 2,070	$ 8,866

As of December 31, 2017 and December 31, 2016, Farmer Mac's allowance for loan losses was $6.8 million and $5.4 million, respectively, and its reserve for losses was $2.1 million and $2.0 million, respectively.

The increase in the provision to the allowance for loan losses recorded during 2017 as compared to 2016, was attributable to (1) an increase in the general allowance due to overall net volume growth in on-balance sheet Farm & Ranch loans; and (2) an increase in the specific allowance for certain impaired on-balance sheet crop and permanent planting loans resulting from both an increase in the outstanding balance of such loans and downgrades in risk ratings on certain of those loans. The increase in the provision was offset in part by a modest decline in loss rates used to estimate probable losses. The increase in the provision to the reserve for losses recorded during 2017 as compared to 2016 was primarily attributable to an increase in the general reserve due to downgrades in risk ratings on certain unimpaired Agricultural Storage and Processing loans underlying LTSPCs. The increase in the provision to the reserve for losses was offset in part by a net decrease in the balance of loans underlying LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities. The charge-offs recorded during 2017 were primarily related to two impaired crop loans with one borrower that were foreclosed and transitioned to REO during first quarter 2017. Farmer Mac had previously recorded a specific allowance of $0.2 million on these impaired crop loans as of December 31, 2016. During second quarter 2017, Farmer Mac sold the related properties for $5.4 million and recognized a $0.8 million gain on sale of REO.

The provisions to the allowance for loan losses recorded during 2016 were attributable to (1) an increase in the general allowance due to overall net volume growth in on-balance sheet Farm & Ranch loans; (2) downgrades in risk ratings for certain loans; and (3) an increase in the specific allowance for on-balance sheet impaired loans resulting from an increase in the outstanding balance of such loans. The releases from the reserve for losses recognized during 2016 were primarily attributable to the release of a specific reserve on an impaired livestock loan underlying an LTSPC that was required to be removed from the LTSPC pool by the originator during third quarter 2016, offset in part by provisions to the reserve for

losses attributable to an increase in the general reserve due to downgrades in risk rating on certain loans underlying LTSPCs.

The provisions to the allowance for loan losses recorded during 2015 were primarily attributable to the establishment of a specific allowance for two Agricultural Storage and Processing loans that financed one canola facility due to a downgrade in risk rating resulting from collateral shortfalls relative to the unpaid principal balance for such loans. In fourth quarter 2015, Farmer Mac purchased these defaulted Agricultural Storage and Processing loans under the terms of the applicable LTSPC agreement. As a result, Farmer Mac recognized a charge-off of $3.7 million in fourth quarter 2015. Farmer Mac had previously established a specific allowance of $3.6 million for these loans as of September 30, 2015. In January 2016, Farmer Mac received funds in the amount of $9.8 million to pay off these Agricultural Storage and Processing loans. The provisions to the total allowance for losses were offset by a reduction in the specific allowance for a permanent planting loan based on an updated appraised value of the collateral underlying that loan and by releases from the general reserve from the reserve for losses due to substantial paydowns of Agricultural Storage and Processing loans underlying LTSPCs resulting from repayments of these loans at par.

See Note 8 to the consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Guarantee and Commitment Fees. Guarantee and commitment fees, which compensate Farmer Mac for assuming the credit risk on loans underlying off-balance sheet Farmer Mac Guaranteed Securities and LTSPCs, were $14.1 million for 2017, compared to $14.9 million and $14.1 million, respectively, for 2016 and 2015. The decrease in guarantee and commitment fees for 2017 compared to 2016 was attributable to the refinancing of a $1.0 billion AgVantage security with Metropolitan Life Insurance Company ("MetLife") in April 2017 into three new on-balance sheet AgVantage securities earning interest income. Previously, $970.0 million of the $1.0 billion AgVantage security that matured in April 2017 had been sold to third parties and reported as off-balance sheet business volume in the Institutional Credit line of business on which Farmer Mac earned a guarantee fee. Also contributing to the decrease was a lower average outstanding balance of off-balance sheet Farm & Ranch Guaranteed Securities and Farm & Ranch loans underlying LTSPCs. The decrease was offset in part by an increase in the average outstanding balance of off-balance sheet Farmer Mac Guaranteed USDA Securities and an increase in the average outstanding balance of Rural Utilities loans underlying LTSPCs. The increase in guarantee and commitment fees for 2016 compared to 2015 was attributable to the addition of $0.5 billion in third quarter 2015 and $0.4 billion in second quarter 2016 of Rural Utilities loans under LTSPCs, offset in part by lower average outstanding balances of off-balance sheet Farm & Ranch Guaranteed Securities and Farm & Ranch loans underlying LTSPCs.

Gains on Financial Derivatives and Hedging Activities. The effect of unrealized and realized gains on Farmer Mac's financial derivatives and hedging activities was net gains of $0.8 million for 2017, compared to net gains of $2.3 million and $2.5 million, respectively for 2016 and 2015.

The components of gains and losses on financial derivatives and hedging activities for the years ended December 31, 2017, 2016, and 2015 are summarized in the following table:

Table 9

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Fair value hedges:			
(Losses)/gains due to fair value changes:			
Financial derivatives[1]	$1,694	$25,365	$5,965
Hedged items	(2,413)	(20,322)	3,100
(Losses)/gains on fair value hedging activities	(719)	5,043	9,065
Cash flow hedges:			
Loss recognized (ineffective portion)	(320)	(353)	(551)
Losses on cash flow hedges	(320)	(353)	(551)
No hedge designation:			
Gains due to fair value changes	10,218	8,585	1,859
Accrual of contractual payments	(9,941)	(11,127)	(5,098)
Gains/(losses) due to terminations or net settlements	1,515	163	(2,744)
Gains/(losses) on financial derivatives not designated in hedging relationships	1,792	(2,379)	(5,983)
Gains on financial derivatives and hedging activities	$753	$2,311	$2,531

(1) Included in the assessment of hedge effectiveness as of December 31, 2017, but excluded from the amounts in the table, were gains of $0.1 million for the year ended December 31, 2017, attributable to the fair value of the swaps at the inception of the hedging relationship. Accordingly, the amounts recognized as hedge ineffectiveness for the year ended December 31, 2017 were gains of $0.6 million. The comparable amounts as of December 31, 2016 were losses of $5.2 million for the year ended December 31, 2016, attributable to the fair value of the swaps at the inception of the hedging relationship and, accordingly, gains of $0.2 million for the year ended December 31, 2016, attributable to hedge ineffectiveness. The comparable amounts as of December 31, 2015 were losses of $9.2 million for the year ended December 31, 2015, attributable to the fair value of the swaps at the inception of the hedging relationship and, accordingly, gains of $0.1 million for the year ended December 31, 2015, attributable to hedge ineffectiveness.

Changes in the fair values of Farmer Mac's open derivative positions for both designated and undesignated hedges are captured in the table above in "(Losses)/gains due to fair value changes" and are primarily the result of fluctuations in long-term interest rates. For financial derivatives designated in fair value hedge accounting relationships, changes in the fair values of the hedged items attributable to the hedged risk are also included in the table above in "(Losses)/gains due to fair value changes." For financial derivatives designated in cash flow hedge accounting relationships, the ineffective portion of changes in fair value are included as "Losses on cash flow hedges" in the table above. The accrual of periodic cash settlements for interest paid or received from Farmer Mac's interest rate swaps that are not designated in hedge accounting relationships is shown as expense related to financial derivatives. Payments or receipts to terminate derivative positions or net cash settled forward sales contracts on the debt of other GSEs and U.S. Treasury futures that are not designated in hedge accounting relationships and initial cash payments received upon the inception of certain swaps are included in "Gains/(losses) due to terminations or net settlements" in the table above. When there is no direct payment arrangement between a swap dealer counterparty and a debt dealer issuing Farmer Mac's medium-term notes for a particular transaction, Farmer Mac may receive an initial cash payment from the swap dealer at the inception of the swap to offset dollar-for-dollar the amount of the discount on the associated hedged debt. Changes in the fair value of these swaps are recognized immediately in "Gains/(losses) on financial derivatives and hedging activities," whereas the offsetting discount on the hedged debt is amortized over the term of the debt as an adjustment to its yield. Thus, there is a timing difference between the recognition of these initial cash payments in "Gains/(losses) on financial derivatives and hedging activities" and the recognition of the discount in interest expense. There is also a presentation difference because the initial cash payments are included in "Gains/(losses) on financial derivatives and hedging activities," whereas the amortization of the discount is included in interest expense. Additionally, the amounts of initial cash payments received by Farmer Mac vary depending upon the number of the aforementioned type of swaps it executes during a quarter.

(Losses)/gains on Trading Securities. During 2017, Farmer Mac recorded $24,000 of unrealized losses on trading securities, compared to unrealized gains of $1.5 million during 2016 and unrealized gains of $1.2 million during 2015. During 2017, all of the unrealized losses were related to financial assets that had been selected to be carried at fair value with the related changes in fair value included in earnings (i.e., the "fair value option"), compared to recorded losses of $0.3 million and recorded gains $0.8 million under the fair value option for 2016 and 2015.

Gains on Sale of Real Estate Owned. During 2017, Farmer Mac realized net gains of $1.7 million on sales of real estate owned properties compared to gains of $15,000 and losses of $1,000 for the 2016 and 2015, respectively.

Other Income. Other income totaled $0.8 million during 2017, compared to $1.8 million and $2.3 million, respectively, for 2016 and 2015. Other income during 2017 included the recognition of $0.4 million of appraisal fees received by Farmer Mac's consolidated appraisal company subsidiary, AgVisory, compared to $1.3 million and $0.6 million, respectively, for 2016 and 2015. As of May 1, 2017, Farmer Mac transferred its entire 65% ownership interest in AgVisory back to the limited liability company. Farmer Mac recognized a loss of approximately $0.1 million upon the transfer. Other income during 2017 included the recognition of $0.1 million of losses previously deferred in accumulated other comprehensive income related to fair value changes of certain available-for-sale securities contributed to Farmer Mac II LLC in 2010 and other miscellaneous items, compared to the recognition of $0.2 million of losses and $1.0 million of gains, respectively, of previously deferred losses or gains for 2016 and 2015.

Compensation and Employee Benefits. Compensation and employee benefits were $24.2 million in 2017, compared to $22.8 million and $22.0 million, respectively, in 2016 and 2015. The increase in compensation and employee benefits in 2017 compared to 2016 was due primarily to an increase in headcount and related employee health insurance costs and higher payouts of variable incentive compensation resulting from actual performance exceeding certain performance target amounts during 2017. The increase in compensation and employee benefits was offset in part by $1.3 million in recouped compensation costs related to the forfeiture of unvested equity awards and annual variable incentive compensation resulting from the termination of employment of Farmer Mac's former President and Chief Executive Officer in December 2017. The increase in compensation and employee benefits in 2016 compared to 2015 was due primarily to an increase in headcount and related employee health insurance costs.

General and Administrative Expenses. General and administrative expenses were $16.0 million for 2017, compared to $15.1 million and $13.1 million, respectively, for 2016 and 2015. The increase in general and administrative expenses for 2017 compared to 2016 was due primarily to higher expenses related to (1) continued technology and business infrastructure investments; (2) legal fees related to general corporate matters, including fees related to the termination of employment of Farmer Mac's former President and Chief Executive Officer in December 2017; (3) building lease expenses due to new leases for office space entered into during 2017; and (4) expenses related to business development efforts. The increase in general and administrative expenses in 2016 compared to 2015 was due primarily to higher consulting fees and information services expenses related to corporate strategic initiatives, continued technology and business infrastructure investments, and expenses related to business development efforts.

Regulatory Fees. Regulatory fees, which consist of the fees paid to the Farm Credit Administration ("FCA"), an independent agency in the executive branch of the United States government that regulates Farmer Mac, were $2.5 million for 2017, compared to $2.5 million and $2.4 million, respectively, for 2016 and 2015. FCA advised Farmer Mac that its estimated fees for the federal fiscal year ending September 30, 2018 would remain at $2.5 million ($0.625 million per federal fiscal quarter), the same amount as compared to the prior federal fiscal year. After the end of a federal government fiscal year, FCA may revise its prior year estimated assessments to reflect actual costs incurred, and has issued both additional assessments and refunds in the past.

Income Tax Expense. Income tax expense was $46.4 million for 2017, compared to $42.1 million and $34.2 million, respectively, for 2016 and 2015.

The increase in income tax expense in 2017 compared to 2016 was primarily due to higher pre-tax income. Also contributing to the increase was a $1.4 million charge to income tax expense as a result of the re-measurement of Farmer Mac's net deferred tax asset due to the enactment of new tax legislation on December 22, 2017. Income tax expense for 2017 also reflected $0.9 million of tax benefits associated with stock-based compensation activity that is subject to ASU 2016-09, “Improvements to Employee Share-Based Payment Accounting,” adopted in first quarter 2017. The excess of Farmer Mac's effective income tax rate above the statutory rate in 2017 was primarily attributable to the non-recurring, non-cash charge related to the new tax legislation, which was offset in part by the tax benefits associated with stock-based compensation activity. See Note 2(l) and Note 10 to the consolidated financial statements for more information about income taxes and the impact of new tax legislation on Farmer Mac's financial position, results of operations and cash flows. More information about the adoption of ASU 2016-09 and the effect on Farmer Mac's financial position, results of operations, and cash flows is included in Note 2(r) to the consolidated financial statements.

The increase in income tax expense in 2016 compared to 2015 was due to higher pre-tax income and two items that occurred during first quarter 2015 but did not recur during 2016: (1) the consolidated tax benefits recognized from the dividends declared on Farmer Mac II LLC Preferred Stock, which is included in the presentation of "Net income attributable to non-controlling interest" on the consolidated statements of operations on a pre-tax basis, and (2) the loss on retirement of the Farmer Mac II LLC Preferred Stock. These items were also the primary reasons why Farmer Mac's effective tax rate was lower than the statutory rate in 2015.

Farmer Mac estimates that its annual effective tax rate beginning in 2018 will be approximately 21 percent, which reflects the federal corporate income tax rate under the new tax legislation enacted in December 2017.

Loss on Retirement of Preferred Stock. On March 30, 2015, Farmer Mac II LLC redeemed all of the outstanding shares of Farmer Mac II LLC Preferred Stock, which, in turn, triggered the redemption of all of the outstanding related Farm Asset-Linked Capital Securities, or "FALConS," on that same day. As a result, Farmer Mac recognized an expense in first quarter 2015 of $8.1 million of deferred issuance costs related to those shares of Farmer Mac II LLC Preferred Stock as "Loss on retirement of preferred stock" on the consolidated statements of operations.

Business Volume. During 2017, Farmer Mac added $4.7 billion of new business volume, compared to $4.4 billion in 2016 and $3.2 billion in 2015. Specifically, Farmer Mac:

- purchased $2.4 billion of AgVantage securities;
- purchased $1.1 billion of newly originated Farm & Ranch loans;
- added $554.7 million of Farm & Ranch loans under LTSPCs;
- purchased $369.8 million of USDA Securities;
- issued $161.9 million of Farmer Mac Guaranteed USDA Securities; and
- purchased $137.3 million of Rural Utilities loans.

Farmer Mac's outstanding business volume was $19.0 billion as of December 31, 2017, an increase of $1.6 billion, or 9.2 percent, from December 31, 2016. The increase in Farmer Mac's outstanding business volume was driven by broad-based portfolio growth across most of Farmer Mac's products and lines of business, including Farm & Ranch loans, AgVantage securities, USDA Securities, and Rural Utilities loans.

The $617.2 million net increase in AgVantage securities for 2017 was primarily driven by net portfolio growth from two of Farmer Mac's long-standing issuers: (1) Rabo AgriFinance ("Rabo") and (2) National Rural Utilities Cooperative Finance Corporation ("CFC"), which increased their outstanding AgVantage business volume with Farmer Mac by $275.0 million and $205.8 million, respectively. The net growth from Rabo included shorter-term funding (less than one year), which was the first time Rabo has used Farmer Mac's AgVantage funding for its short-term funding needs. The remaining net increase in AgVantage securities came from Farmer Mac's smaller institutional customers, which increased outstanding balances by $136.4 million in 2017, including transactions with two new counterparties.

Farmer Mac grew its Farm & Ranch loan portfolio by $684.3 million during 2017, which was primarily driven by an increase in the average size of loans purchased, including several large loans with large borrowers. During 2017, Farmer Mac purchased 1,445 Farm & Ranch loans with an average unpaid principal balance of $781,000 compared to 1,467 Farm & Ranch loans purchased with an average unpaid principal balance of $665,000 during 2016. The $257.8 million net increase in USDA Securities reflected an increase in both USDA Securities securitized and sold to lenders in the form of Farmer Mac Guaranteed USDA Securities and USDA Securities retained on-balance sheet. Farmer Mac grew its Rural Utilities loan portfolio by $76.8 million, which was primarily due to the purchases of a few larger loans in competitive situations as a result of an improvement in Farmer Mac's pricing on these types of loans.

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.

In April 2017, Farmer Mac purchased and retained $1.0 billion of AgVantage securities issued by MetLife. MetLife used the proceeds from Farmer Mac's purchase of $1.0 billion in AgVantage securities to refinance an AgVantage security of the same amount that matured in April 2017. Previously, Farmer Mac held $30.0 million of the $1.0 billion AgVantage security that matured in April 2017 on-balance sheet and earned a spread between the interest income earned on that portion of the security and the related funding costs. The remaining $970.0 million of the $1.0 billion AgVantage security that matured in April 2017 had previously been sold to third parties and reported as off-balance sheet business volume in the Institutional Credit line of business on which Farmer Mac earned an annual guarantee fee of approximately 0.15 percent. For the newly purchased $1.0 billion in AgVantage securities, which are now held entirely on-balance sheet, Farmer Mac will earn weighted average annual net effective spread income of approximately 0.42 percent. The newly purchased AgVantage securities are comprised of three securities with separate maturities – $500.0 million of a one-year security, which features a monthly call option six months after the issuance date, $250.0 million of a two-year security, and $250.0 million of a three-year security.

The following table sets forth purchases of non-delinquent eligible loans, new loans added under LTSPCs, and new guarantees during the periods indicated in the Farm & Ranch, USDA Guarantees, and Rural Utilities lines of business, as well as purchases of AgVantage securities in the Institutional Credit line of business:

Table 10
New Business Volume – Farmer Mac Loan Purchases, Guarantees, LTSPCs, and AgVantage Securities

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Farm & Ranch:			
Loans	$1,129,545	$966,023	$748,368
LTSPCs	554,743	399,095	427,795
USDA Guarantees:			
USDA Securities	369,759	375,203	363,621
Farmer Mac Guaranteed USDA Securities	161,925	106,054	13,314
Rural Utilities:			
Loans	137,341	50,491	108,337
LTSPCs	—	441,404	522,262
Institutional Credit:			
AgVantage Securities	2,383,912	2,098,852	743,158
Revolving floating rate AgVantage facility	—	—	300,000
Total purchases, guarantees, LTSPCs, and AgVantage Securities	$4,737,225	$4,437,122	$3,226,855

New business volume for loans purchased within the Farm & Ranch line of business in 2017 was substantially greater than in 2016. This was primarily due to an increase in borrower demand for long-term real estate financing, as farmers used equity in farmland assets to increase sources of operating capital, and an increase in the average size of loans purchased, including several large loans with large borrowers. The increase in new business volume for loans added under LTSPCs within the Farm & Ranch line of business in 2017 compared to 2016 reflected a large LTSPC pool added in fourth quarter 2017 with an existing customer and an increase in the average size of loans added under LTSPCs, despite the decrease in demand among Farm Credit System institutions for the LTSPC product. The increase in new business volume in the USDA Guarantees line of business in 2017 compared to 2016 reflected an increase in lender usage of USDA guaranteed loan programs due to available federal funding for those programs. Loan purchase volume in the Rural Utilities line of business increased in 2017 compared to 2016 primarily as a result of an improvement in Farmer Mac's pricing for larger, more competitive loans to rural utilities borrowers and because CFC, Farmer Mac's only current rural utilities counterparty, is increasingly partnering with Farmer Mac in these more competitive situations. Farmer Mac did not add loans under LTSPCs in the Rural Utilities line of business during 2017, which reflects the absence of demand from CFC for the LTSPC product. Changes in AgVantage securities volume are primarily driven by the generally larger transaction sizes for that product and the fluctuating funding and liquidity needs of Farmer Mac's customer network and scheduled maturity amounts. The volume of new AgVantage securities was higher in 2017 compared to 2016 primarily due to the scheduled maturities for those periods and related refinancing activity, as Farmer Mac refinanced $1.5 billion of maturing AgVantage securities during 2017 compared to $1.3 billion in 2016.

Based on market conditions, 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 2017 and 2016 was less than one year. Of those loans, 66 percent and 60 percent had principal amortization periods longer than the maturity date, resulting in balloon payments at maturity, with a weighted-average remaining term to maturity of 17.9 years and 17.7 years, respectively.

During 2017, 2016, and 2015, Farmer Mac securitized some of the Farm & Ranch loans it had purchased and sold the resulting Farmer Mac Guaranteed Securities in the amounts of $363.5 million, $511.4 million, and $336.9 million, respectively. Farmer Mac consolidates these loans and presents them as "Loans held for investment in consolidated trusts, at amortized cost" on the consolidated balance sheets. In 2017, 2016, and 2015, $128.9 million, $273.6 million, and $255.3 million, respectively, of Farmer Mac Guaranteed Securities were sold to Zions First National Bank, which is a related party to Farmer Mac.

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

Table 11

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Loans securitized and sold as Farm & Ranch Guaranteed Securities	$363,475	$511,393	$336,913
Farmer Mac Guaranteed USDA Securities	161,925	106,054	13,314
AgVantage Securities	2,383,912	2,098,852	743,158
Total Farmer Mac Guaranteed Securities issuances	$2,909,312	$2,716,299	$1,093,385

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

Table 12
Lines of Business - Outstanding Business Volume

	As of December 31,		
	2017	2016	2015
	(in thousands)		
Farm & Ranch:			
Loans	$2,798,906	$2,381,488	$2,249,864
Loans held in trusts:			
Beneficial interests owned by third party investors	1,399,827	1,132,966	708,111
LTSPCs	2,335,342	2,209,409	2,253,273
Guaranteed Securities	333,511	415,441	514,051
USDA Guarantees:			
USDA Securities	2,068,017	1,954,800	1,876,451
Farmer Mac Guaranteed USDA Securities	284,197	139,575	41,826
Rural Utilities:			
Loans	1,076,291	999,512	1,008,126
LTSPCs(1)	806,342	878,598	522,864
Institutional Credit			
AgVantage Securities	7,604,878	6,987,686	6,424,254
Revolving floating rate AgVantage facility(2)	300,000	300,000	300,000
Total	$19,007,311	$17,399,475	$15,898,820

(1) As of December 31, 2017, 2016, and 2015, includes $20.0 million, $20.0 million, and $8.8 million, respectively, related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee.

(2) During 2017, $100.0 million of this facility was drawn and subsequently repaid. During 2016 and 2015, this facility was not utilized. Farmer Mac receives a fixed fee based on the full dollar amount of the facility. If the counterparty draws on the facility, the amounts drawn will be in the form of AgVantage Securities, and Farmer Mac will earn interest income on those securities.

The following table summarizes by maturity date the scheduled principal amortization of loans held, loans underlying off-balance sheet Farmer Mac Guaranteed Securities (excluding AgVantage securities) and LTSPCs, USDA Securities, and Farmer Mac Guaranteed USDA Securities as of December 31, 2017:

Table 13
Schedule of Principal Amortization as of December 31, 2017

	Loans Held	Loans Underlying Off-Balance Sheet Farmer Mac Guaranteed Securities and LTSPCs	USDA Securities and Farmer Mac Guaranteed USDA Securities	Total
	(in thousands)			
2018	241,162	749,219	107,123	1,097,504
2019	234,966	218,473	104,035	557,474
2020	236,896	203,286	104,456	544,638
2021	245,362	216,539	106,408	568,309
2022	214,049	192,039	108,615	514,703
Thereafter	4,102,589	1,895,639	1,821,577	7,819,805
Total	$5,275,024	$3,475,195	$2,352,214	$11,102,433

Of the $19.0 billion outstanding principal balance of volume included in Farmer Mac's four lines of business as of December 31, 2017, $7.9 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, 2017:

Table 14
AgVantage Balances by Year of Maturity

	As of December 31, 2017
	(in thousands)
2018[1]	2,383,187
2019	1,118,419
2020	1,196,727
2021	1,066,491
2022	567,057
Thereafter[2]	1,572,997
Total	$ 7,904,878

(1) Includes the expiration of the $300.0 million revolving floating rate AgVantage facility.
(2) Includes various maturities ranging from 2023 to 2044.

The weighted-average remaining maturity of the outstanding AgVantage securities shown in the table above was 3.9 years as of December 31, 2017.

As part of fulfilling its guarantee obligations for Farm & Ranch Guaranteed Securities and commitments to purchase eligible loans underlying LTSPCs, Farmer Mac purchases defaulted loans, all of which are at least 90 days delinquent or in material non-monetary default at the time of purchase, out of the loan pools underlying those securities and LTSPCs, and records the purchased loans as such on its balance sheet. The purchase price for a defaulted loan purchased out of a pool of loans backing Farm & Ranch Guaranteed Securities is the then-current outstanding principal balance of the loan plus accrued and unpaid interest. The purchase price for a defaulted loan purchased under an LTSPC is the then-current outstanding principal balance of the loan, with accrued and unpaid interest on the defaulted loan payable out of any future loan payments or liquidation proceeds as received. The purchase price of a defaulted loan is not an indicator of the expected loss on that loan; many other factors affect expected loss, if any, on any loan so purchased. The delinquent loans purchased out of securitized pools during 2017, 2016, and 2015 had a weighted-average age of 4 years, 9 years, and 6 years, respectively. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

The following table presents Farmer Mac's purchases of defaulted loans underlying Farm & Ranch Guaranteed Securities and LTSPCs for the periods indicated:

Table 15

	For the Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Defaulted loans purchased underlying Farm & Ranch Guaranteed Securities owned by third party investors	$5,670	$2,118	$3,407
Defaulted loans purchased underlying LTSPCs	311	398	13,500
Total loan purchases	$5,981	$2,516	$16,907

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 percent of the Class A voting common stock is held by three financial institutions, with 31 percent held by one institution. Approximately 97 percent of the Class B voting common stock is held by five FCS institutions (two of which are related to each other through a parent-subsidiary relationship).

Unlike some other GSEs, specifically other FCS institutions and the Federal Home Loan Banks, Farmer Mac is not structured as a cooperative owned exclusively by member institutions and established to provide services exclusively to its members. Farmer Mac, as a stockholder-owned, publicly-traded corporation, seeks to fulfill its mission of serving the financing needs of rural America in a manner 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 that governs 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, 2017 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, 2017. 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 16

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 2017 and 2016, Farmer Mac earned approximately $1.2 million in fees attributable to transactions with AgFirst, primarily commitment fees for LTSPCs.
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 director Richard H. Davidson is currently a director of AgriBank, and Farmer Mac director Douglas A. Felton is a former director of AgriBank.	No Farmer Mac business through any of its lines of business was conducted between the parties.
Bath State Bank	Less than 5% ownership	Farmer Mac director Dennis L. Brack is a director of Bath State Bank and Bath State Bancorp, the holding company of Bath State Bank.	Farmer Mac purchased $5.4 million and $1.3 million in USDA Securities from Bath State Bank in 2017 and 2016, respectively.

Name of Institution	Ownership of Farmer Mac Voting Common Stock	Affiliation with Any Farmer Mac Directors	Primary Aspects of Institution's Business Relationship with Farmer Mac
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 Douglas E. Wilhelm served as an executive officer of CoBank until June 30, 2012. Mr. Wilhelm is also currently a party to a services agreement with CoBank, under which he serves as an employee of CoBank.	No Farmer Mac business through any of its lines of business was conducted between the parties.
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)	Farmer Mac director Thomas W. Hill served as an executive officer of FCBT until November 2010. Mr. Hill is also currently a party to a services agreement with FCBT, under which he serves as an employee of FCBT.	In 2017 and 2016, Farmer Mac earned approximately $1.0 million and $1.1 million, respectively, in fees attributable to transactions with FCBT, primarily commitment fees for LTSPCs. In 2017 and 2016, FCBT retained approximately $0.2 million and $0.3 million, respectively, in servicing fees for its work as a Farmer Mac central servicer.
First Dakota National Bank (First Dakota)	Less than 5% ownership	Farmer Mac director Dennis Everson is a director of First Dakota and also served as Branch Administration Director of First Dakota until December 2012.	Farmer Mac purchased $28.5 million and $24.7 million in loans from First Dakota in 2017 and 2016, respectively, and entered into $0.4 million of new LTPSCs with First Dakota in 2017 and none in 2016. In 2017 and 2016, First Dakota retained approximately $1.2 million and $1.1 million, respectively, in servicing fees for its work as a Farmer Mac servicer.
National Rural Utilities Cooperative Finance Corporation (CFC)	81,500 shares of Class A voting common stock (7.91% of outstanding Class A stock and 5.32% of total voting common stock outstanding)	None	Transactions with CFC represent 100 percent of business volume under the Rural Utilities line of business since its inception in 2008, and 100 percent of the AgVantage securities secured by Rural Utilities loans that have been issued to date.

Transactions with CFC during 2017 and 2016 represented 10.3 percent and 16.7 percent, respectively, of Farmer Mac's total purchases for those years. Transactions with CFC represented 24.6 percent and 25.7 percent, respectively, of Farmer Mac's total outstanding business volume as of December 31, 2017 and 2016.

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
			In both 2017 and 2016, Farmer Mac earned guarantee fees of approximately $0.1 million attributable to transactions with CFC. In 2017 and 2016, Farmer Mac earned commitment fees of approximately $2.2 million and $2.0 million, respectively, attributable to transactions with CFC. In 2017 and 2016, Farmer Mac earned interest income of $43.9 million and $27.6 million, respectively, attributable to AgVantage transactions with CFC. In 2017 and 2016, CFC retained approximately $3.5 million and $3.3 million, respectively, in servicing fees for its work as a Farmer Mac central servicer. CFC is currently the only servicer of rural utilities loans and loans underlying LTSPCs in the Rural Utilities line of business and securing AgVantage securities in the Institutional Credit line of business.
The Vanguard Group, Inc.	56,376 shares of Class A voting common stock (5.47% of outstanding Class A stock and 3.68% of total voting common stock outstanding)	None	No Farmer Mac business through any of its lines of business was conducted between the parties.
Zions First National Bank	322,100 shares of Class A voting common stock (31.25% of outstanding Class A stock and 21.04% of total voting common stock outstanding)	None	In 2017 and 2016, Farmer Mac's purchases of loans from Zions under the Farm & Ranch line of business represented approximately 11.2 percent and 15.9 percent, respectively, of Farm & Ranch loan purchase volume for those years. Those purchases represented 7.5 percent and 11.2 percent, 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 3.8 percent and 3.4 percent, respectively, of the USDA Guarantees line of business purchases for the year ended December 31, 2017 and 2016. Farmer Mac did not purchase AgVantage securities from Zions for the year ended December 31, 2017 and 2016. Transactions with Zions represented 5.0 percent and 5.3 percent, respectively, of Farmer Mac's total outstanding business volume as of

December 31, 2017 and 2016.
In 2017 and 2016, Zions retained approximately $11.5 million and $9.9 million, respectively, in servicing fees for its work as a Farmer Mac servicer.

As discussed in more detail in Note 2(q) 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 regarding 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. While the pace of Farmer Mac's growth will depend on the capital and liquidity needs of the participants in the rural financing business, Farmer Mac foresees opportunities for continued growth across all four of its lines of business, driven by several key factors:

- As agricultural and rural utilities lenders face increased equity capital requirements under regulatory frameworks or rating agency requirements, or seek to reduce exposure due to lending limits or concentration limits, Farmer Mac can provide relief for those institutions through loan purchases, guarantees, or LTSPCs.
- While lending opportunities in the rural utilities industry generally remain moderate, Farmer Mac believes there is opportunity for growth among larger rural utilities borrowers because CFC, the only lender that currently participates in Farmer Mac's Rural Utilities line of business, increasingly partners with Farmer Mac to provide competitive pricing for transactions with these borrowers. Farmer Mac also believes that there are growth opportunities within its Institutional Credit line of business because it provides a competitive source of debt funding for CFC.
- As a result of targeted marketing and brand awareness initiatives, product development efforts, and the emergence of institutional investors within agriculture, Farmer Mac's lender network and Institutional Credit customer base continues to expand, which may generate additional demand for Farmer Mac's products from new sources.
- Consolidation, expansion, and vertical integration occurring across many sectors of the agricultural industry and in agricultural banking, coupled with Farmer Mac's new and expanded business relationships with larger regional and national lenders, has led to an increase in Farmer Mac's loan purchase volume and the average transaction size within Farmer Mac's Farm & Ranch line of business.

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

Expense Outlook. Farmer Mac continues to expand its investments in human capital, technology, and business infrastructure to increase capacity and efficiency as it seeks to accommodate the aforementioned growth opportunities and achieve its long-term strategic objectives. Accordingly, Farmer Mac expects the annual increases in its operating expenses to be above historical averages over the next several years. Specifically, Farmer Mac believes that aggregate compensation and employee benefits and general and administrative expenses will increase approximately 15 percent in 2018 relative to 2017, with increases likely to remain elevated in 2019.

CEO Search. In December 2017, Farmer Mac appointed Lowell L. Junkins, the chairman of its board of directors, to serve as the Acting President and CEO of Farmer Mac following the termination of employment of Farmer Mac's former President and CEO while Farmer Mac conducts a search for a successor. Shortly after that appointment, the board of directors formed a CEO search committee consisting of six board members to lead a thorough search process. Since its formation, the search committee has been soliciting stakeholder feedback, developing a CEO profile and position description, and evaluating executive search firms. The CEO search committee recently selected an executive search firm and will seek to recommend board approval of a new President and CEO with appropriate qualifications and expertise in a timely manner.

Agricultural Industry. The agricultural industry includes many diverse sectors that respond in different ways to changes in economic conditions. Those individual sectors often are affected differently, sometimes positively and sometimes negatively, by prevailing domestic and global economic factors and regional weather conditions. This results in cycles where one or more sectors may be under stress while others are not. The profitability of agricultural sectors is also affected by commodity inventories and their associated market prices, which can vary largely as a result of global production trends, weather patterns, access to water supply, and harvest conditions that may affect both domestic and global supplies.

Net cash income, as reported by the USDA and one of its benchmark measures of economic activity in the agricultural industry, has declined significantly since reaching a cyclical peak in 2013. However, changes in farm income levels are largely localized and depend on producer region and commodity production type. The USDA estimates that aggregate net cash income levels rose in 2017 due to higher commodity quantities sold and stabilizing commodity prices. Farmland values have weakened in the Midwest region, where producers are most exposed to changes in the grain markets. In this region, data released by the USDA indicates an average decline in farmland values of between 0.5 percent and 1.8 percent in 2017. In all other regions, farmland values appear to be flat to increasing. For example, data released by the USDA indicates that Pacific state farmland values increased an average of 8.7 percent in 2017. 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.

Agricultural export demand also depends significantly on exchange rates. A strengthening U.S. dollar relative to other worldwide currencies causes American agricultural commodities to be less competitive globally, thereby diminishing their global demand and driving down producer profits. Conversely, a weakening U.S. dollar reduces the cost of American agricultural commodities worldwide, causing them to be more competitive in global markets. The U.S. dollar weakened by more than 10 percent during 2017, as measured by the U.S. Dollar Index, which has recently enhanced the competitiveness of U.S. agricultural exports. However, a slowdown in global economic growth or changes in trade policies and agreements could adversely affect the demand for certain U.S. agricultural exports, which may result in downward pressure on commodity prices.

The U.S. experienced several severe weather events and natural disasters in 2017. Although severe weather events and natural disasters may damage a borrower’s property used in agricultural production, that damage may not affect a borrower’s ability to repay its obligations due to risk mitigating payments available in many cases from property and casualty insurance, crop insurance, and government disaster relief. Farmer Mac is not aware of any loans in its portfolio that are currently experiencing distress due to the weather events that occurred in 2017 and believes that these events are not likely to have a material impact on the quality or performance of Farmer Mac’s loan portfolio.

In recent years, the 90-day delinquencies and credit losses in Farmer Mac's portfolio have remained low compared to their historical averages. However, some indications of stress have emerged, as the volume of Farmer Mac's substandard assets has generally increased since 2015 and 90-day delinquencies have generally increased throughout 2017. Both measures have increased compared to the historically favorable levels observed in recent years. To date, the increases in these two measures have not yet translated into rising credit losses. Farmer Mac believes that any losses associated with the current agricultural credit cycle will be moderated by the strength and diversity of its portfolio, which Farmer Mac believes is adequately collateralized. Farmer Mac believes that its portfolio remains sufficiently diversified, both geographically and by commodity, and that its portfolio has been underwritten to high credit quality standards. Accordingly, Farmer Mac believes that its portfolio is well-positioned to endure reasonably foreseeable volatility in farmland values and commodity prices. Farmer Mac also continues to closely monitor sector profitability, economic and weather conditions, and agricultural land value and geographic trends to tailor underwriting practices to changing conditions. For more information about the loan balances, loan-to-value ratios, 90-day delinquencies, and substandard asset rate for the Farm & Ranch loans in Farmer Mac's portfolio as of December 31, 2017, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Loans and Guarantees."

Farmer Mac continues to monitor the establishment and evolution of legislation and regulations, as well as the status of various international trade agreements and partnerships, that could affect farmers, ranchers, rural lenders, and rural America in general. The Tax Cuts and Jobs Act, signed into law in December 2017, may result in lower overall effective tax rates for U.S. farmers and ranchers, thereby improving after-tax returns for farming operations. The Agricultural Act of 2014, also referred to as the U.S. Farm Bill, expires in September 2018, at which time it is likely to be replaced by new legislation. Various federal agricultural policies, including those affecting crop subsidies, crop insurance, commodity support programs, and other aspects of agricultural production, in effect under the current U.S. Farm Bill may be altered with the enactment of new legislation. New legislation and regulations focused on groundwater management practices, including in California, may result in tighter restrictions on groundwater usage that could negatively affect agricultural producers in the future. Finally, as the Trump administration and the U.S. Congress continue their review of existing regulations and the promotion of new legislative or regulatory proposals and policies, Farmer Mac will monitor the effects that any changes in legislation or regulation could have on Farmer Mac or its customers.

Farmer Mac's marketing and brand awareness initiatives directed towards the Farm & Ranch line of business focus on lenders that have demonstrated a commitment to agricultural lending based on their lending history. Farmer Mac directs its outreach efforts to these lenders through direct personal contact, which is facilitated through Farmer Mac's frequent participation in state and national banking conferences, its alliances with the American Bankers Association and the Independent Community Bankers of America, and its business relationships with members of the Farm Credit System. Farmer Mac's initiatives to increase the awareness of Farmer Mac and its products within the agricultural lender community and the larger agricultural industry have included hosting events on relevant agricultural lending topics, participating on speaker panels at agriculture-related regional and national conferences, and distributing original content about conditions in the agricultural economy. In the Farm & Ranch line of business, Farmer Mac is experiencing stronger demand for its loan products. Demand for Farmer Mac's secondary market tools could also increase as rural lenders adapt to new and changing regulations, which may require lenders to obtain more liquidity and capital to continue their lending practices.

Farmer Mac also directs marketing efforts towards the agricultural industry by trying to identify and develop relationships with potential issuers of AgVantage securities, including insurance company agricultural lenders, agricultural finance companies, and bank and non-bank agricultural lenders such as agricultural mortgage funds, who can pledge loans as collateral to obtain financing as part of Farmer Mac's Institutional Credit line of business. As part of these efforts, Farmer Mac has increased its focus on wholesale financing for institutional investors in agricultural assets that qualify as eligible collateral under Farmer Mac's charter. Farmer Mac has tailored a version of its AgVantage product to this type of issuer, which is referred to as the Farm Equity AgVantage product. Farmer Mac also offers other AgVantage products tailored to fund investors in agricultural mortgages. Farmer Mac directs its outreach efforts to these potential issuers through its business relationships within the agricultural community and through executive outreach to institutions whose profile presents opportunity to benefit from wholesale financing. As institutional investment in agricultural assets continues to grow, Farmer Mac believes that it is in a unique position to help increase access to capital for these types of counterparties and thereby provide a new source of capital to benefit rural America. Farmer Mac designed the Farm Equity AgVantage product to provide an efficient, low-cost source of financing tailored to meet the needs of institutional investors that can be adapted to many different types of organizational structures and for both public and private institutional investors. Farmer Mac believes there is opportunity to expand this type of business as both the trend toward institutional investment in agricultural assets and awareness of the Farm Equity AgVantage and other AgVantage product offerings continue to grow. For more information about the Farm Equity AgVantage product, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional" in this report.

Rural Utilities Industry. Demand for capital within the rural utilities industry generally remains moderate, which has resulted in an ongoing high level of competition between rural utilities cooperative lenders that could suppress loan growth opportunities for those lenders, including lenders that participate in Farmer Mac's Rural Utilities line of business. Although competitive pressures remain within the rural utilities lending industry, Farmer Mac believes there is opportunity for growth among larger rural utilities borrowers because CFC increasingly partners with Farmer Mac to provide competitive pricing for transactions with these borrowers. Farmer Mac also believes there are growth opportunities within its Institutional Credit line of business because the wholesale funding rates that Farmer Mac provides may be highly competitive compared to other available sources of debt funding for rural utilities cooperative lenders.

Balance Sheet Review

Assets. Farmer Mac's total assets as of December 31, 2017 were $17.8 billion, compared to $15.6 billion as of December 31, 2016. The increase in total assets was primarily attributable to an increase in total Farmer Mac Guaranteed Securities and total loans, net of allowance.

As of December 31, 2017, Farmer Mac had $0.3 billion of cash and cash equivalents and $2.3 billion of investment securities compared to $0.3 billion of cash and cash equivalents and $2.5 billion of investment securities. As of December 31, 2017, Farmer Mac had $7.6 billion of Farmer Mac Guaranteed Securities, $5.3 billion of loans, net of allowance, and $2.1 billion of USDA Securities. This compares to $6.0 billion of Farmer Mac Guaranteed Securities, $4.5 billion of loans, net of allowance, and $2.0 billion of USDA Securities as of December 31, 2016.

Liabilities. Farmer Mac's total liabilities were $17.1 billion as of December 31, 2017, compared to $15.0 billion as of December 31, 2016. The increase in total liabilities was primarily attributable to an increase in total notes payable.

Equity. As of December 31, 2017, Farmer Mac had total equity of $708.1 million, which is comprised entirely of stockholders' equity. As of December 31, 2016, Farmer Mac had total equity of $643.6 million, comprised of stockholders' equity of $643.4 million and non-controlling interest of $0.2 million. As of May 1, 2017, Farmer Mac transferred its entire 65% ownership interest in AgVisory back to the limited liability company and recognized a loss of approximately $0.1 million, after-tax, upon the transfer. The increase in total equity during 2017 was a result of an increase in retained earnings and accumulated other comprehensive income. The increase in accumulated other comprehensive income was due to increases in fair value on certain floating-rate AgVantage securities.

In addition, Farmer Mac elected to adopt ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," for the year ended December 31, 2017. This change in accounting principle resulted in an increase to "Accumulated other comprehensive income, net of tax" and a corresponding decrease to "Retained earnings" of $9.1 million. See Note 2(r) to the consolidated financial statements for more information about the adoption of ASU 2018-02 and the effect on Farmer Mac's consolidated financial statements.

Risk Management

Credit Risk – Loans and Guarantees. Farmer Mac is exposed to credit risk resulting from the inability of borrowers to repay their loans in conjunction with a deficiency in the value of the collateral relative to the outstanding balance of the loan and the costs of liquidation. Farmer Mac is exposed to credit risk on:

- loans held;
- loans underlying Farmer Mac Guaranteed Securities; and
- loans underlying LTSPCs.

Farmer Mac generally assumes 100 percent of the credit risk on loans held and loans underlying LTSPCs in the Farm & Ranch and Rural Utilities lines of business and loans underlying Farm & Ranch Guaranteed Securities. Farmer Mac has direct credit exposure to the loans in non-AgVantage transactions but only indirect credit exposure to loans that secure AgVantage transactions because AgVantage securities represent a general obligation of an issuer that is, in turn, secured by eligible loans. Non-AgVantage transactions like loan purchases, LTSPCs, and "pass-through" guaranteed securities that represent beneficial interests in the underlying loans do not include a general obligation of a counterparty as a separate source of repayment. For the reasons described in more detail below, Farmer Mac excludes its assets in the USDA Guarantees line of business, the loans in the Rural Utilities line of business, and AgVantage securities in the Institutional Credit line of business from the loan-level credit risk metrics it discloses.

Farmer Mac's direct credit exposure to Farm & Ranch loans held and loans underlying Farm & Ranch Guaranteed Securities and LTSPCs as of December 31, 2017 was $6.9 billion across 48 states. Farmer Mac has established underwriting, collateral valuation, and documentation standards for agricultural real estate mortgage loans and believes that these standards mitigate the risk of loss from borrower defaults and provide guidance about the management, administration, and conduct of underwriting and appraisals to all participating and potential lenders. These standards were developed based on industry practices for agricultural real estate mortgage loans and are designed to assess the creditworthiness of the borrower, as well as the value of the collateral securing the loan. Farmer Mac evaluates and adjusts these standards on an ongoing basis based on current and anticipated market conditions. For more information about Farmer Mac's underwriting and collateral valuation standards for Farm & Ranch loans, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Underwriting and Collateral Valuation (Appraisal) Standards."

Farmer Mac's direct credit exposure to Rural Utilities loans held and loans underlying LTSPCs as of December 31, 2017 was $1.9 billion across 39 states, of which $1.4 billion were loans to electric distribution cooperatives and $0.5 billion were loans to generation and transmission ("G&T") cooperatives. Farmer Mac has developed different underwriting standards for rural utilities loans that depend on whether direct or indirect credit exposure is assumed on a loan and whether the borrower is an electric distribution cooperative or a G&T cooperative. See "Business—Farmer Mac's Lines of Business—Rural Utilities—Underwriting." As of December 31, 2017, there were no delinquencies in Farmer Mac's portfolio of Rural Utilities loans, and Farmer Mac has not experienced any credit losses on Rural Utilities loans since Congress authorized Farmer Mac's Rural Utilities line of business in 2008. Based on this performance, Farmer Mac excludes the loans in the Rural Utilities line of business from the credit risk metrics it discloses.

Farmer Mac has indirect credit exposure to the Farm & Ranch loans and Rural Utilities loans that secure AgVantage securities included in the Institutional Credit line of business. Farmer Mac's AgVantage securities are general obligations of institutions approved by Farmer Mac and are secured by current loans in an amount at least equal to the outstanding principal amount of the related security. Accordingly, Farmer Mac excludes the loans that secure AgVantage securities from the credit risk metrics it discloses because Farmer Mac has only indirect credit risk on those loans and because of the other characteristics of AgVantage securities that mitigate credit risk. Those characteristics include a general obligation of an issuing institution approved by Farmer Mac, the required collateralization level for the securities, the requirement for delinquent loans to be removed from the pool of pledged loans and replaced with current eligible loans, and in some cases, the requirement for the counterparty to comply with specified financial covenants for the life of the related AgVantage security. As of December 31, 2017, Farmer Mac had not experienced any credit losses on any AgVantage securities and does not expect to incur any such losses in the future. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Credit Risk – Institutional" for more information about Farmer Mac's credit risk on AgVantage securities.

The credit exposure of Farmer Mac and Farmer Mac II LLC on USDA Securities, including those underlying Farmer Mac Guaranteed USDA Securities, is covered by the full faith and credit of the United States. Therefore, Farmer Mac believes that Farmer Mac and Farmer Mac II LLC have little or no credit risk exposure in the USDA Guarantees line of business because of the USDA guarantee. As of December 31, 2017, neither Farmer Mac nor Farmer Mac II LLC had experienced any credit losses on any business under the USDA Guarantees line of business, and neither expects to incur any such losses in the future.

Loans in the Farm & Ranch line of business are all secured by first liens on agricultural real estate. Accordingly, Farmer Mac's exposure on a loan is limited to the difference between (1) the total of the accrued interest, advances, and the principal balance of a loan and (2) the value of the property less the cost to sell. Measurement of that excess or shortfall is the best predictor and determinant of loss, compared to other measures that evaluate the efficiency of a particular farm operator. For example, debt service ratios depend upon farm operator efficiency and leverage, which can vary widely within a geographic region or commodity type or based upon an operator's business and farming skills. Thus, Farmer Mac considers a loan's original loan-to-value ratio as one of many factors in evaluating loss severity. This ratio is calculated by dividing the loan principal balance at the time of guarantee, purchase, or commitment by the appraised value at the date of loan origination or, when available, updated appraised value at the time of guarantee, purchase, or commitment. Other factors Farmer Mac considers include, but are not limited to, other underwriting standards, commodity and farming forecasts, and regional economic and agricultural conditions.

Loan-to-value ratios depend upon the market value of a property, as determined in accordance with Farmer Mac's collateral valuation standards. As of December 31, 2017 and 2016, the average unpaid loan balance for loans outstanding in the Farm & Ranch line of business was $642,000 and $611,000, respectively. The original loan-to-value ratio is based on the original appraised value that has not been indexed to provide a current market value or reflect amortization of loans. As of second quarter 2017, Farmer Mac revised its calculation of the original loan-to-value ratio of a loan to combine for any cross-collateralized loans: (1) the original loan principal balance amounts in the numerator; and (2) the original appraised property values in the denominator. In previous periods, the ratio was calculated on a loan-by-loan basis without considering the effects of any cross-collateralization. Prior period ratios of original loan-to-value have been recalculated to conform to this revised calculation. The weighted-average original loan-to-value ratio for Farm & Ranch loans purchased during 2017 was 50 percent, compared to 53 percent for loans purchased during 2016. 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 approximately 51 percent as of both December 31, 2017 and 2016. The weighted-average original loan-to-value ratio for all 90-day delinquencies was 52 percent and 55 percent, respectively, as of December 31, 2017 and 2016.

The weighted-average current loan-to-value ratio, which is the loan-to-value ratio based on original appraised value but which reflects loan amortization since purchase, for Farm & Ranch loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs was approximately 45 percent and 44 percent as of December 31, 2017 and 2016, respectively.

Farmer Mac maintains an allowance for loan losses to cover estimated probable losses on loans held and a reserve for losses to cover estimated probable losses on loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities. The methodology that Farmer Mac uses to determine the level of its allowance for losses is described in Note 2(j) to the consolidated financial statements. Management believes that this methodology produces a reasonable estimate of probable losses, as of the balance sheet date, for all loans held and loans underlying off-balance sheet Farm & Ranch Guaranteed Securities and LTSPCs.

The following table summarizes the components of Farmer Mac's total allowance for losses as of December 31, 2017 and 2016:

Table 17

	As of December 31, 2017	As of December 31, 2016
	(in thousands)	
Allowance for loan losses	$6,796	$ 5,415
Reserve for losses:		
Off-balance sheet Farm & Ranch Guaranteed Securities	257	226
LTSPCs	1,813	1,794
Total allowance for losses	$8,866	$ 7,435

The following table summarizes the changes in the components of Farmer Mac's total allowance for each year in the five-year period ended December 31, 2017

Table 18

	Allowance for Loan Losses	Reserve for Losses	Total Allowance for Losses
	(in thousands)		
Balance as of January 1, 2013	$11,351	$ 5,539	$ 16,890
(Release of)/provision for losses	(481)	929	448
Charge-offs	(4,004)	—	(4,004)
Balance as of December 31, 2013	$6,866	$ 6,468	$ 13,334
Release of losses	(961)	(2,205)	(3,166)
Charge-offs	(86)	$ —	(86)
Recoveries	45	—	45
Balance as of December 31, 2014	$5,864	$ 4,263	$ 10,127
Provision for/(release of) losses	2,388	(2,180)	208
Charge-offs	(3,772)	—	(3,772)
Balance as of December 31, 2015	$4,480	$ 2,083	$ 6,563
Provision for/(release of) losses	1,065	(63)	1,002
Charge-offs	(130)	—	(130)
Balance as of December 31, 2016	$5,415	$ 2,020	$ 7,435
Provision for losses	1,708	50	1,758
Charge-offs	(327)	$ —	(327)
Balance as of December 31, 2017	$6,796	$ 2,070	$ 8,866

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." As of December 31, 2017, Farmer Mac's total allowance for losses totaled $8.9 million, or 0.13 percent of the outstanding principal balance of Farm & Ranch loans held for investment and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities, compared to $7.4 million, or 0.12 percent, as of December 31, 2016. The $1.5 million increase in the total allowance for losses was primarily attributable to net volume growth in Farm & Ranch loans and downgrades in risk ratings, which caused a net increase to the specific allowance for certain impaired on-balance sheet crop and permanent plantings loans.

As of December 31, 2017, Farmer Mac individually evaluated $33.9 million of the $147.1 million of recorded investment in impaired assets for collateral shortfalls against updated appraised values, other updated collateral valuations, or discounted values. For the remaining $113.2 million of impaired assets for which updated valuations were not available, Farmer Mac evaluated them in the aggregate in consideration of their similar risk characteristics and historical statistics. Farmer Mac recorded specific allowances of $2.9 million for undercollateralized assets as of December 31, 2017. Farmer Mac's general allowances were $6.0 million as of December 31, 2017.

The charge-offs recorded during 2017 were primarily related to two impaired crop loans, with one borrower, that were foreclosed and transitioned to REO during first quarter 2017. Farmer Mac had previously recorded a specific allowance of $0.2 million on these impaired crop loans as of December 31, 2016. In second quarter 2017, Farmer Mac sold the related properties for $5.4 million and recognized a $0.8 million gain on the sale of the REO.

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, 2017, Farmer Mac's 90-day delinquencies were $48.4 million (0.71 percent of the Farm & Ranch portfolio), compared to $21.0 million (0.34 percent of the Farm & Ranch portfolio) as of December 31, 2016. Those 90-day delinquencies were comprised of 51 delinquent loans as of December 31, 2017, compared with 38 delinquent loans as of December 31, 2016. The increase in 90-day delinquencies, as compared to as of December 31, 2016, is primarily attributable to the delinquency of several larger loans and certain crop and permanent planting loans mostly due to factors specific to the borrower and not related to macroeconomic factors in the agricultural economy. In particular, $15.3 million in permanent planting loans to a single borrower became delinquent in first quarter 2017 and accounts for over half of the increase in 90-day delinquencies. Farmer Mac believes it is adequately collateralized on this exposure. Farmer Mac's 90-day delinquencies have historically fluctuated from quarter to quarter, both in dollars and as a percentage of the outstanding Farm & Ranch portfolio, with higher levels generally observed at the end of the first and third quarters and lower levels generally observed at the end of the second and fourth quarters of each year as a result of the annual (January 1st) and semi-annual (January 1st and July 1st) payment terms of most Farm & Ranch loans. Farmer Mac believes that it remains adequately collateralized on these loans. Farmer Mac expects that over time its 90-day delinquency rate will revert closer to Farmer Mac's historical average (which it did as of third quarter 2017), and possibly exceed it, due to macroeconomic factors and the cyclical nature of the agricultural economy. Farmer Mac's average 90-day delinquency rate as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 1 percent. The highest 90-day delinquency rate observed during that period occurred in 2009 at approximately 2 percent, which coincided with increased delinquencies in loans within Farmer Mac's then-held ethanol loan portfolio that Farmer Mac no longer holds. Although the vast majority of the year-over-year increase in 90-day delinquencies is due to borrower-specific factors, other factors such as macroeconomic trends and the cyclical nature of the agricultural economy could contribute to an increase in 90-day delinquencies in the future.

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

Table 19

	Farm & Ranch Line of Business	90-Day Delinquencies	Percentage	
	(dollars in thousands)			
As of:				
December 31, 2017	$6,867,586	$ 48,444	0.71	%
September 30, 2017	6,557,030	66,381	1.01	%
June 30, 2017	6,426,518	41,901	0.65	%
March 31, 2017	6,240,467	50,807	0.81	%
December 31, 2016	6,139,304	21,038	0.34	%
September 30, 2016	6,004,728	18,377	0.31	%
June 30, 2016	5,830,533	22,093	0.38	%
March 31, 2016	5,713,789	34,680	0.61	%
December 31, 2015	5,725,299	32,136	0.56	%

When analyzing the overall risk profile of its lines of business, Farmer Mac takes into account more than the Farm & Ranch loan delinquency percentages provided above. The lines of business also include AgVantage securities and Rural Utilities loans held and underlying LTSPCs, neither of which have any

delinquencies, and USDA Securities, which are backed by the full faith and credit of the United States. Across all of Farmer Mac's lines of business, 90-day delinquencies represented 0.25 percent of total outstanding business volume as of December 31, 2017, compared to 0.12 percent as of December 31, 2016.

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, 2017 by year of origination, geographic region, commodity/collateral type, original loan-to-value ratio, and range in the size of borrower exposure:

Table 20
Farm & Ranch 90-Day Delinquencies as of December 31, 2017

	Distribution of Farm & Ranch Line of Business	Farm & Ranch Line of Business	90-Day Delinquencies[1]		Percentage
	(dollars in thousands)				
By year of origination:					
2007 and prior	11 %	$752,033	$ 7,860		1.05 %
2008	2 %	172,998	550		0.32 %
2009	2 %	106,427	482		0.45 %
2010	3 %	174,235	1,136		0.65 %
2011	4 %	249,293	767		0.31 %
2012	9 %	589,919	—		— %
2013	12 %	850,314	1,578		0.19 %
2014	10 %	658,571	20,055	(2)	3.05 %
2015	13 %	871,938	10,604	(3)	1.22 %
2016	16 %	1,174,003	3,920		0.33 %
2017	18 %	1,267,855	1,492		0.12 %
Total	100%	$6,867,586	$ 48,444		0.71 %
By geographic region[4]:					
Northwest	11 %	$740,991	$ 4,222		0.57 %
Southwest	30 %	2,093,213	4,933		0.24 %
Mid-North	33 %	2,244,094	5,799		0.26 %
Mid-South	13 %	908,603	13,187		1.45 %
Northeast	4 %	296,264	1,433		0.48 %
Southeast	9 %	584,421	18,870		3.23 %
Total	100%	$6,867,586	$ 48,444		0.71 %
By commodity/collateral type:					
Crops	53 %	$3,657,945	$ 21,853		0.60 %
Permanent plantings	20 %	1,367,563	18,833		1.38 %
Livestock	20 %	1,334,958	3,835		0.29 %
Part-time farm	6 %	433,628	3,923		0.90 %
Ag. Storage and Processing	1 %	58,761	—		— %
Other	—	14,731	—		— %
Total	100%	$6,867,586	$ 48,444		0.71 %
By original loan-to-value ratio[5]:					
0.00% to 40.00%	19 %	$1,322,422	$ 5,206		0.39 %
40.01% to 50.00%	25 %	1,733,671	11,294		0.65 %
50.01% to 60.00%	35 %	2,385,605	28,822		1.21 %
60.01% to 70.00%	17 %	1,150,914	2,240		0.19 %

70.01% to 80.00%(6)	4 %	248,799	882		0.35 %
80.01% to 90.00%(6)	— %	26,175	—		— %
Total	100%	$6,867,586	$ 48,444		0.71 %
By size of borrower exposure(7):					
Less than $1,000,000	35 %	$2,379,596	$ 10,536		0.44 %
$1,000,000 to $4,999,999	38 %	2,627,617	12,808		0.49 %
$5,000,000 to $9,999,999	13 %	867,574	9,815	(3)	1.13 %
$10,000,000 to $24,999,999	8 %	584,896	15,285	(2)	2.61 %
$25,000,000 to $50,000,000	6 %	407,903	—		— %
Total	100%	$6,867,586	$ 48,444		0.71 %

(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) Includes $15.3 million of permanent planting loans with one borrower located in the Southeast who became 90-days delinquent during first quarter 2017. The original combined loan-to-value ratio of these two permanent planting loans was between 50.01% to 60.00%.

(3) Includes $9.8 million related to two crop loans located in the Mid-South that became 90 days delinquent as a result of a bankruptcy filed by one borrower. These two loans with the same borrower had separate underlying collateral with original loan-to-value ratios between 40.01% to 50.00% and 50.01% to 60.00%, respectively.

(4) 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).

(5) As of second quarter 2017, Farmer Mac revised its calculation of the original loan-to-value ratio of a loan to combine for any cross-collateralized loans: (i) the original loan principal balance amounts in the numerator; and (ii) the original appraised property values in the denominator. In previous periods, the ratio was calculated on a loan-by-loan basis without considering the effects of any cross-collateralization. Prior period information has been reclassified to conform to the current period calculation and presentation.

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

(7) 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, 2017, Farmer Mac's substandard assets were $221.3 million (3.2 percent of the Farm & Ranch portfolio), compared to $165.2 million (2.7 percent of the Farm & Ranch portfolio) as of December 31, 2016. Those substandard assets were comprised of 307 loans as of December 31, 2017 and 287 loans as of December 31, 2016. The $56.1 million increase from year-end 2016 was primarily driven by credit downgrades in on-balance sheet loans. The new substandard asset volume from year-end 2016 includes several large exposures and also represents a relatively diverse set of commodities. Farmer Mac expects that over time its substandard asset rate will eventually revert closer to, and possibly exceed, Farmer Mac's historical average due to macroeconomic factors and the cyclical nature of the agricultural economy. Farmer Mac's average substandard assets as a percentage of its Farm & Ranch portfolio over the last 15 years is approximately 4 percent. The highest substandard asset rate observed during that period occurred in 2010 at approximately 8 percent, 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 continues to increase from current levels, it is likely that Farmer Mac's provision to the allowance for loan losses and the reserve for losses will also increase.

Although some credit losses are inherent to the business of agricultural lending, Farmer Mac believes that any losses associated with the current agricultural credit cycle will be moderated by the strength and diversity of its portfolio, which Farmer Mac believes is adequately collateralized. See Note 8 to the consolidated financial statements for more information regarding credit quality indicators related to Farm & Ranch loans held and loans underlying LTSPCs and off-balance sheet Farm & Ranch Guaranteed Securities.

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, 2017 by year of origination, geographic region, and commodity/collateral type. The purpose of this information is to present information regarding losses relative to original Farm & Ranch purchases, guarantees, and commitments.

Table 21
Farm & Ranch Credit Losses Relative to Cumulative
Original Loans, Guarantees, and LTSPCs as of December 31, 2017

	Cumulative Original Loans, Guarantees and LTSPCs	Cumulative Net Credit Losses/(Recoveries)	Cumulative Loss Rate
	(dollars in thousands)		
By year of origination:			
2007 and prior	$13,315,157	$ 25,094	0.19 %
2008	817,237	3,370	0.41 %
2009	549,250	1,578	0.29 %
2010	662,387	5	— %
2011	768,959	3,661	0.48 %
2012	1,152,645	—	— %
2013	1,410,440	—	— %
2014	952,578	—	— %
2015	1,094,229	(540)	(0.05)%
2016	1,343,880	—	— %
2017	1,344,265		— %
Total	$23,411,027	$ 33,168	0.14 %
By geographic region[1]:			
Northwest	$3,086,468	$ 11,191	0.36 %
Southwest	8,113,941	8,167	0.10 %
Mid-North	5,932,095	12,830	0.22 %
Mid-South	2,801,098	(211)	(0.01)%
Northeast	1,394,583	185	0.01 %
Southeast	2,082,842	1,006	0.05 %
Total	$23,411,027	$ 33,168	0.14 %
By commodity/collateral type:			
Crops	$10,701,811	$ 2,887	0.03 %
Permanent plantings	4,959,802	9,402	0.19 %
Livestock	5,580,280	3,877	0.07 %
Part-time farm	1,339,933	1,329	0.10 %
Ag. Storage and Processing	671,874	15,673	2.33 %
Other	157,327	—	— %
Total	$23,411,027	$ 33,168	0.14 %

(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. Within most commodity groups, certain geographic areas allow greater economies of scale or proximity to markets than others and, consequently, may result in more successful operations within the commodity group. Certain geographic areas also offer better growing conditions and market access than others and, consequently, may result in more versatile and more successful operators within a given commodity group. Farmer Mac's board of directors has established policies regarding geographic and commodity concentration to maintain adequate diversification and measure concentration risk.

In Farmer Mac's experience, the degree to which the collateral for a commodity group is single-use or highly improved is a more significant determinant of the probability of ultimate losses on a given loan than diversity of geographic location within a commodity group. Commodity groups that tend to be single-use or highly improved include permanent plantings (for example, nut crops), agricultural storage and processing facilities (for example, canola plants and grain processing facilities), and certain livestock facilities (for example, dairy facilities). The versatility of a borrower's operation (and in the case of persisting adverse economic conditions, the borrower's ability to switch commodity groups) will more likely result in profitability for the borrower and, consequently, a lower risk of decreased value for the underlying collateral. Producers of agricultural commodities that require highly improved property are generally less able to adapt their operations when faced with adverse economic conditions. In addition, in the event of a borrower's default, the prospective sale value of the collateral is more likely to decrease and the related loan may become undercollateralized. This analysis is consistent with corresponding commodity analyses, which indicate that Farmer Mac has experienced higher loss and collateral deficiency rates in permanent planting loans and agricultural storage and processing loans, for which the collateral is typically highly improved and specialized.

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 22

As of December 31, 2017
Farm & Ranch Concentrations by Commodity Type within Geographic Region

	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Other	Total
	(dollars in thousands)						
By geographic region[1]:							
Northwest	$356,732	$97,501	$223,429	$63,079	$—	$250	$740,991
	5.2 %	1.4 %	3.3 %	0.9 %	— %	— %	10.8 %
Southwest	516,489	1,050,625	422,784	73,711	20,272	9,332	2,093,213
	7.5 %	15.3 %	6.1 %	1.1 %	0.3 %	0.1 %	30.4 %
Mid-North	1,903,087	17,291	191,197	111,368	17,958	3,193	2,244,094
	27.7 %	0.3 %	2.8 %	1.6 %	0.3 %	— %	32.7 %
Mid-South	557,559	19,869	270,266	54,138	6,259	512	908,603
	8.1 %	0.3 %	3.9 %	0.8 %	0.1 %	— %	13.2 %
Northeast	135,718	24,145	56,141	75,229	5,031	—	296,264
	2.0 %	0.3 %	0.9 %	1.1 %	0.1 %	— %	4.4 %
Southeast	188,360	158,132	171,141	56,103	9,241	1,444	584,421
	2.7 %	2.3 %	2.5 %	0.8 %	0.1 %	0.1 %	8.5 %
Total	$3,657,945	$1,367,563	$1,334,958	$433,628	$58,761	$14,731	$6,867,586
	53.2 %	19.9 %	19.5 %	6.3 %	0.9 %	0.2 %	100.0 %

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

Table 23

As of December 31, 2017
Farm & Ranch Cumulative Credit Losses by Origination Year and Commodity Type

	Crops	Permanent Plantings	Livestock	Part-time Farm	Ag. Storage and Processing	Total
	(in thousands)					
By year of origination:						
2007 and Prior	$703	$ 9,184	$ 3,803	$ 1,206	$ 10,198	$25,094
2008	2,626	—	—	123	621	3,370
2009	98	218	69	—	1,193	1,578
2010	—	—	5	—	—	5
2011	—	—	—	—	3,661	3,661
2012	—	—	—	—	—	—
2013	—	—	—	—	—	—
2014	—	—	—	—	—	—
2015	(540)	—	—	—	—	(540)

2016	—	—	—	—	—	—
2017	—	—	—	—	—	—
Total	$2,887	$ 9,402	$ 3,877	$ 1,329	$ 15,673	$33,168

Farmer Mac regularly conducts detailed, statistical stress tests of its portfolio for credit risk and compares those results to current and historical credit quality metrics and to the various statutory, regulatory, and Farmer Mac's board of directors' capital policy metrics. Farmer Mac's methodologies for pricing its guarantee and commitment fees, managing credit risk, and providing adequate allowances for losses consider all of the foregoing factors and information.

Farmer Mac requires approved lenders to make representations and warranties regarding 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 are responsible to Farmer Mac for breaches of those representations and warranties, and 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, 2017, Farmer Mac has required one seller to repurchase a total of two loans aggregating $0.8 million for breaches of representations and warranties made about those two loans, both of which repurchases occurred during first quarter 2016. In addition to relying on the representations and warranties of lenders, Farmer Mac also underwrites all of the agricultural real estate mortgage loans (other than rural housing and part-time farm mortgage loans) and rural utilities loans that it holds in its portfolio. 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, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Loan Eligibility" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Loan Eligibility."

Under contracts with Farmer Mac and in consideration for servicing fees, Farmer Mac-approved central servicers service loans in accordance with Farmer Mac's requirements. Central servicers are responsible to Farmer Mac for serious errors in the servicing of those loans. If a central servicer materially breaches the terms of its servicing agreement with Farmer Mac, such as failing to forward payments received or releasing collateral without Farmer Mac's consent, or experiences insolvency or bankruptcy, Farmer Mac has the right to terminate the servicing relationship for a particular loan or the entire portfolio serviced by the central servicer. In addition, Farmer Mac can proceed against the central servicer in arbitration or exercise any remedies available to it under law. During the previous three years ended December 31, 2017, Farmer Mac had not exercised any remedies or taken any formal action against any central servicers. For more information about Farmer Mac's servicing requirements, see "Business—Farmer Mac's Lines of Business—Farm & Ranch—Servicing" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Servicing."

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

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

Farmer Mac approves AgVantage counterparties and manages institutional credit risk related to those AgVantage counterparties by requiring them to meet Farmer Mac's standards for creditworthiness for the particular counterparty and transaction. The required collateralization level is established at the time the AgVantage facility is entered into with the counterparty and does not change during the life of the AgVantage securities issued under the facility. In AgVantage transactions, the corporate obligor is

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required to remove from the pool of pledged collateral any loan that becomes more than 30 days delinquent in the payment of principal or interest and to substitute an eligible loan that is current in payment to maintain the minimum required collateralization level. In the event of a default on the general obligation, Farmer Mac would have recourse to the pledged collateral and have rights to the ongoing borrower payments of principal and interest. For Farm Equity AgVantage counterparties and smaller financial funds or entities, Farmer Mac also requires that the counterparty generally (1) maintain a higher collateralization level, through lower loan-to-value ratio thresholds and higher overcollateralization than required for traditional AgVantage securities and (2) comply with specified financial covenants for the life of the related AgVantage security to avoid default. For a more detailed description of AgVantage securities, see "Business—Farmer Mac's Lines of Business—Institutional Credit—AgVantage Securities."

The unpaid principal balance of outstanding on-balance sheet AgVantage securities secured by loans eligible for the Farm & Ranch line of business totaled $5.1 billion as of December 31, 2017 and $3.7 billion as of December 31, 2016. The unpaid principal balance of on-balance sheet AgVantage securities secured by loans eligible for the Rural Utilities line of business totaled $2.5 billion as of December 31, 2017 and $2.3 billion as of December 31, 2016. The unpaid principal balance of outstanding off-balance sheet AgVantage securities totaled $0.3 billion as of December 31, 2017 and $1.3 billion as of December 31, 2016. The decrease in the unpaid principal balance of outstanding off-balance sheet AgVantage securities from year-end 2016 was attributable to the refinancing of a $1.0 billion AgVantage security that matured in April 2017 into three new on-balance sheet AgVantage securities. Previously, $970.0 million of this $1.0 billion maturing AgVantage security was reported as off-balance sheet business volume because it was owned by third party investors. For more information about this AgVantage transaction, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Business Volume."

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, 2017 and 2016:

Table 24

	As of December 31, 2017			As of December 31, 2016		
Counterparty	Balance	Credit Rating	Required Collateralization	Balance	Credit Rating	Required Collateralization
	(dollars in thousands)					
AgVantage:						
MetLife	$2,550,000	AA-	103%	$2,550,000	AA-	103%
CFC[1]	2,800,188	A	100%	2,594,402	A	100%
Rabo AgriFinance	2,075,000	None	106%	1,800,000	None	106%
Other[2]	199,959	[3]	106% to 125%	86,373	[3]	106% to 125%
Farm Equity AgVantage[4]	279,731	None	110%	256,911	None	110%
Total outstanding	$7,904,878			$7,287,686		

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

(2) Consists of AgVantage securities issued by 6 different issuers as of both December 31, 2017 and 2016.

(3) Consists of AgVantage securities from 6 different issuers without a credit rating as of both December 31, 2017 and 2016.

(4) Consists of AgVantage securities from 5 different issuers as of December 31, 2017 and 3 different issuers as of December 31, 2016.

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

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Mac's Lines of Business—Farm & Ranch—Approved Lenders" and "Business—Farmer Mac's Lines of Business—Rural Utilities—Approved 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 varies based on the market value of its swaps portfolio with each counterparty. Furthermore, Farmer Mac is required to fully collateralize its derivatives positions without any minimum threshold for cleared swap transactions, as well as for non-cleared swap transactions entered into after March 1, 2017, the effective date of new rules that established zero threshold requirements for the exchange of variation margin between Farmer Mac and its swap dealer counterparties in such transactions. Farmer Mac transacts interest rate swaps with multiple counterparties to ensure a more even distribution of institutional credit risk related to its swap transactions. As a result of mandatory clearing rules for certain interest rate derivative transactions enacted under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), Farmer Mac uses the clearing process for cleared swap transactions as another mechanism for managing its derivative counterparty risk. Credit risk related to interest rate swap contracts is discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Risk Management—Interest Rate Risk" and Note 6 to the consolidated financial statements.

Credit Risk – Other Investments. As of December 31, 2017, Farmer Mac had $0.3 billion of cash and cash equivalents and $2.3 billion of investment securities. The management of the credit risk inherent in these investments is governed by Farmer Mac's internal policies as well as FCA regulations, which establish limitations on dollar amount, issuer concentration, and credit quality. Those regulations can be found at 12 C.F.R. §§ 652.1-652.45 (the "Liquidity and Investment Regulations"). In addition to establishing a portfolio of highly liquid investments as an available source of cash, the goals of Farmer Mac's investment policies are designed to minimize Farmer Mac's exposure to financial market volatility, preserve capital, and support Farmer Mac's access to the debt markets.

The Liquidity and Investment Regulations and Farmer Mac's policies generally require each investment or issuer of an investment to be highly rated by a nationally recognized statistical rating organization ("NRSRO"). Investments in mortgage securities and asset-backed securities are required to have a rating in the highest NRSRO category. Corporate debt securities with maturities of no more than five years but more than three years are required to be rated in one of the two highest categories; corporate debt securities with maturities of three years or less are required to be rated in one of the three highest categories. Some investments do not require a rating, such as U.S. Treasury securities and other obligations fully insured by the United States government or a government agency or diversified investment funds regulated under the Investment Company Act of 1940. Investments in diversified investment funds are further limited to those funds that are holding only instruments approved for direct investment by Farmer Mac.

The Liquidity and Investment Regulations and Farmer Mac's policies also establish concentration limits, which are intended to limit exposure to any one counterparty. Although the Liquidity and Investment Regulations limit Farmer Mac's total credit exposure to any single issuer of securities and uncollateralized financial derivatives to 25 percent of Farmer Mac's regulatory capital (as of December 31, 2017, 25 percent of Farmer Mac's regulatory capital was $166.5 million), Farmer Mac's current policy limits this total credit exposure to 5 percent of its regulatory capital (as of December 31, 2017, 5 percent of Farmer Mac's regulatory capital was $33.3 million). These exposure limits do not apply to obligations of the United States or GSEs, though Farmer Mac is restricted by the Liquidity and Investment Regulations and its own policy from investing more than 100 percent of its regulatory capital in any one GSE.

On February 23, 2016, FCA published a proposed rule in the Federal Register to amend the Liquidity and Investment Regulations to comply with Section 939A of the Dodd-Frank Act by removing references and requirements relating to credit ratings and replacing them with other standards of creditworthiness, as well as to revise the eligibility criteria and exposure limits for certain types of investments. Farmer Mac submitted comments on this proposed rule to FCA on April 25, 2016 and expects a final rule to be issued during 2018. Farmer Mac expects that it will be able to successfully adapt to FCA's proposed amendments of the Liquidity and Investment Regulations.

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

Interest Rate Risk Management

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

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

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

Taking into consideration the prepayment provisions and the default probabilities associated with its loan assets, Farmer Mac uses prepayment models to project and value 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 subsequent prepayment forecasts.

Yield maintenance provisions and other prepayment penalties contained in certain agricultural real estate mortgage loans and most rural utilities loans reduce, but do not eliminate, prepayment risk. Those provisions require borrowers to make an additional payment when they prepay their loans, thus compensating Farmer Mac for the shortened duration of the prepaid loan. As of December 31, 2017, approximately 2 percent of the total outstanding balance of loans in the Farm & Ranch line of business where Farmer Mac either owned the loan or the beneficial interest in the underlying loan had yield maintenance provisions or other forms of prepayment protection (together covering 4 percent of all loans with fixed interest rates). Of the Farm & Ranch loans purchased in 2017, 5 percent had yield maintenance or another form of prepayment protection. As of December 31, 2017, none of Farmer Mac's USDA Securities had yield maintenance provisions; however, 4 percent contained other prepayment penalties. Of the USDA Securities purchased in 2017, 10 percent contained various forms of prepayment penalties. As of December 31, 2017, 65 percent of the Rural Utilities loans owned by Farmer Mac had yield maintenance provisions. Of the Rural Utilities loans purchased in 2017, 84 percent contained prepayment penalties.

Farmer Mac's purchases of eligible loan assets expose Farmer Mac to interest rate risk arising primarily from uncertainty as to when the borrowers will repay the outstanding principal balance on the related loans. Generally, the values of Farmer Mac's eligible loan assets, and the debt issued to fund these assets, increase when interest rates decline, and their values decrease as interest rates rise. Furthermore, changes in interest rates may affect loan prepayment rates which may, in turn, affect durations and values of the loans. Declining interest rates generally increase prepayment rates, which shortens the duration of these assets, while rising interest rates tend to slow loan prepayments, thereby extending the duration of the loans.

Farmer Mac is also subject to interest rate risk on loans that Farmer Mac has committed to acquire (other than delinquent loans through LTSPCs) but has not yet purchased. When Farmer Mac commits to purchase those loans, it is exposed to interest rate risk between the time it commits to purchase the loans and the time it either:

- issues debt to retain the loans in its portfolio; or
- sells Farmer Mac Guaranteed Securities backed by the loans.

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

Farmer Mac's $0.3 billion of cash and cash equivalents mature within three months and are funded with discount notes having similar maturities. As of December 31, 2017, $2.18 billion of the $2.26 billion of investment securities (96 percent) were floating rate securities with rates that adjust within one year or fixed rate securities with original maturities between three months and one year. Those securities are funded with effectively floating rate debt that closely matches the rate adjustment dates of the associated investments. As of December 31, 2017, Farmer Mac had outstanding discount notes of $1.7 billion, medium-term notes that mature within one year of $6.4 billion, and medium-term notes that mature after one year of $7.4 billion.

Interest Rate Risk Metrics

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

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

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

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

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

The following schedule summarizes the results of Farmer Mac's MVE and NES sensitivity analysis as of December 31, 2017 and 2016 to an immediate and instantaneous uniform or "parallel" shift in the yield curve:

Table 25

Interest Rate Scenario	Percentage Change in MVE from Base Case	
	As of December 31, 2017	As of December 31, 2016
+100 basis points	(1.1)%	(2.5)%
-50 basis points	(1.8)%	(0.8)%

Interest Rate Scenario	Percentage Change in NES from Base Case	
	As of December 31, 2017	As of December 31, 2016
+100 basis points	4.4%	3.0%
-50 basis points	(1.3)%	(2.1)%

Farmer Mac's board of directors has established policies and procedures regarding MVE and NES sensitivity. These policies include the measurement of MVE and NES sensitivity to more severe decreasing interest rate scenarios that are consistent in magnitude with the increasing interest rate scenarios. However, given the current low interest rate environment, those rate scenarios produced negative interest rates during 2016 and periods of 2017, and, as a result, do not produce results that are meaningful. Consequently, Farmer Mac currently measures and reports MVE and NES sensitivity to a down 50 basis point interest rate shock.

As of December 31, 2017, Farmer Mac's effective duration gap was negative 0.9 months, compared to positive 0.1 months as of December 31, 2016. During 2017, short-term interest rates increased materially while longer-term interest rates decreased. This rate movement reduced the duration of Farmer Mac's assets relative to its liabilities, thereby widening slightly Farmer Mac's duration gap. Despite this rate movement, Farmer Mac's overall interest rate sensitivity remained stable and at relatively low levels throughout 2017.

Financial Derivatives Transactions

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

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

As of December 31, 2017, Farmer Mac had $8.8 billion combined notional amount of interest rate swaps, with terms ranging from less than one year to twenty-five years, of which $2.8 billion were pay-fixed interest rate swaps, $4.9 billion were receive-fixed interest rate swaps, and $1.1 billion were basis swaps.

Farmer Mac enters into interest rate swap contracts to synthetically adjust the characteristics of its debt to match more closely the cash flow and duration characteristics of its loans and other assets, thereby reducing interest rate risk and often times deriving an overall lower effective cost of borrowing than would otherwise be available to Farmer Mac in the conventional debt market. Specifically, interest rate swaps synthetically convert the variable cash flows related to the forecasted issuance of short-term debt into effectively fixed rate medium-term notes that match the anticipated duration and interest rate characteristics of the corresponding assets. Farmer Mac evaluates the overall cost of using the swap market as a funding alternative and uses interest rate swaps to manage specific interest rate risks for specific transactions. Certain financial derivatives are designated as fair value hedges of fixed rate assets classified as available-for-sale or liabilities to protect against fair value changes in the assets or liabilities related to a benchmark interest rate (e.g., LIBOR). Furthermore, certain financial derivatives are designated as cash flow hedges to mitigate the volatility of future interest rate payments on floating rate debt.

Farmer Mac has used callable interest rate swaps (in conjunction with the issuance of short-term debt) as an alternative to callable medium-term notes with equivalently structured maturities and call options. The call options on the swaps are designed to match the prepayment options on those assets without prepayment protection. The blended durations of the swaps are also designed to match the duration of the related assets over their estimated lives. If the assets prepay, the swaps can be called and the short-term debt repaid; if the assets do not prepay, the swaps remain outstanding and the short-term debt is rolled over, effectively providing fixed rate callable funding over the lives of the related assets. Thus, the economics of the assets are closely matched to the economics of the interest rate swap and funding combination.

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 financial derivatives are reported in "Gains on financial derivatives and hedging activities" 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 also reported in "Gains on financial derivatives and hedging activities" in the consolidated statements of operations. The accrual of the contractual amounts due on the financial derivative is included as an adjustment to the yield of the hedged item and is reported in net interest income. For financial derivatives designated in cash flow hedge accounting relationships, the effective portion of the derivative gain/loss is recorded in other comprehensive income. Amounts are disclosed as a reclassification out of other comprehensive income and affecting net interest income when the hedged transaction occurs and affects earnings. Any ineffective portion of designated hedge transactions is recognized immediately in "Gains on financial derivatives and hedging activities." 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, 2017, Farmer Mac had $0.5 million uncollateralized net exposures to three counterparties. As of December 31, 2016, Farmer Mac had uncollateralized net exposures of $0.2 million to two counterparties.

Basis Risk

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

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

Farmer Mac primarily uses the last two options identified in the list above to fund these floating rate assets because this funding strategy is usually the most effective way to provide an interest rate match, maintain a suitable liquidity profile, and lower Farmer Mac's cost of funds. As funding for these floating rate assets matures, Farmer Mac seeks to refinance the debt associated with these assets in a similar fashion to achieve an appropriate interest rate match for the remaining life of the assets. However, if the rates on Farmer Mac's discount notes or medium-term notes deteriorate relative to LIBOR during the time between when these floating rate assets were first funded and when Farmer Mac refinances the associated debt, Farmer Mac is exposed to a commensurate reduction in its net effective spread on the associated assets. Conversely, if the rates on Farmer Mac's discount notes or medium-term notes improve relative to LIBOR during that time, Farmer Mac would benefit from a commensurate increase in its net effective spread on those assets.

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

To mitigate this basis risk, Farmer Mac seeks to issue debt of sufficient maturity to reduce the frequency of required refinancing of that debt over the life of the associated asset. As of December 31, 2017, Farmer Mac held $6.6 billion of floating-rate assets in its lines of business and its liquidity investment portfolio that reset on the basis of floating rate market indexes, primarily one-month and three-month LIBOR. As of the same date, Farmer Mac also had $2.8 billion of interest rate swaps outstanding where Farmer Mac pays a fixed rate of interest and receives a floating rate of interest.

Adjustments to Farmer Mac's funding strategies to take advantage of lower cost LIBOR-based funding opportunities, as well as a generally favorable LIBOR-based funding market, has enabled Farmer Mac to reduce its funding costs in 2017. LIBOR-based funding markets have returned to levels that are generally consistent with Farmer Mac's historical experience, and Farmer Mac believes that additional material improvements in the near-term are less likely.

Liquidity and Capital Resources

Farmer Mac regularly accesses the capital markets for funding, and Farmer Mac has maintained access to the capital markets at favorable rates throughout 2016 and 2017. Assuming continued access to the capital markets, Farmer Mac believes it has sufficient liquidity and capital resources to support its operations for the next 12 months and for the foreseeable future. Farmer Mac also has a liquidity contingency plan to manage unanticipated disruptions in its access to the capital markets. That plan involves borrowing through repurchase agreement arrangements and the sale of liquid assets. Farmer Mac is required to maintain a minimum of 90 days of liquidity under the Liquidity and Investment Regulations. In accordance with the methodology for calculating available days of liquidity prescribed by those regulations, Farmer Mac maintained an average of 195 days of liquidity during 2017 and had 172 days of liquidity as of December 31, 2017.

Debt Issuance. Farmer Mac funds its purchases of eligible loan assets and investment assets and finances its operations primarily by issuing debt obligations of various maturities through a network of dealers in the public capital markets. Farmer Mac works to enhance its funding operations by undertaking extensive debt investor relations initiatives, including conducting non-deal roadshows with institutional investors, making periodic dealer sales force presentations, and speaking at fixed income investor conferences throughout the United States. Debt obligations issued by Farmer Mac include discount notes and fixed and floating rate medium-term notes, including callable notes.

Farmer Mac's board of directors has authorized the issuance of up to $18.0 billion of discount notes and medium-term notes (of which $15.5 billion was outstanding as of December 31, 2017), subject to periodic review of the adequacy of that level relative to Farmer Mac's borrowing requirements. Farmer Mac invests the proceeds of its debt issuances in purchases of loans, USDA Securities, Farmer Mac Guaranteed Securities, and investment assets in accordance with policies established by its board of directors and subject to regulations established by FCA.

Liquidity. The funding and liquidity needs of Farmer Mac's lines of business are driven by the purchase and retention of eligible loans, USDA Securities, and Farmer Mac Guaranteed Securities (including AgVantage securities); the maturities of Farmer Mac's discount notes and medium-term notes; and payment of principal and interest on Farmer Mac Guaranteed Securities. Farmer Mac's primary sources of funds to meet these needs are the proceeds of its debt issuances, fees for its guarantees and commitments, net effective spread, loan repayments, and maturities of AgVantage securities.

Farmer Mac maintains cash, cash equivalents (including U.S. Treasury securities and other short-term money market instruments), and other investment securities that can be drawn upon for liquidity needs. The following table presents these assets as of December 31, 2017 and 2016:

Table 26

	As of December 31, 2017	As of December 31, 2016
	(in thousands)	
Cash and cash equivalents	$302,022	$265,229
Investment securities:		
Guaranteed by U.S. Government and its agencies	1,331,490	1,423,850
Guaranteed by GSEs	893,843	1,044,261
Corporate debt securities	—	10,041
Asset-backed securities	35,104	37,699
Total	$2,562,459	$2,781,080

Capital Requirements. Farmer Mac is subject to the following capital requirements – minimum, critical, and risk-based. Farmer Mac is required to comply with the higher of the minimum capital requirement and the risk-based capital requirement. The minimum capital requirement is expressed as a percentage of on-balance sheet assets and off-balance sheet obligations. The critical capital requirement is equal to one-half of the minimum capital amount. Farmer Mac's statutory charter does not specify the required level of risk-based capital but directs FCA to establish a risk-based capital stress test for Farmer Mac, using specified stress test parameters. Certain enforcement powers are given to FCA depending on Farmer Mac's compliance with these capital standards. As of December 31, 2017, Farmer Mac was in compliance with its statutory capital requirements and was classified as within "level I" (the highest compliance level). 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—Capital Standards" for more information on the capital requirements applicable to Farmer Mac.

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 imposes restrictions on Tier 1-eligible dividends and any discretionary bonus payments if Tier 1 capital falls below specified thresholds. As of December 31, 2017 and 2016, Farmer Mac's Tier 1 capital ratio was 12.6% and 12.7%, respectively. The decrease from year-end 2016 was the result of the adoption of ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," for the year ended December 31, 2017. Excluding the effects of the adoption of ASU 2018-02, Farmer Mac's Tier 1 capital ratio increased as the marginal impact of capital growth outpaced the marginal impact of growth in risk weighted assets during 2017. For more information about Farmer Mac's capital adequacy policy and FCA's rule on capital planning, see "Business—Government Regulation of Farmer Mac—Capital Standards." As of December 31, 2017, Farmer Mac was in compliance with its capital adequacy policy.

Contractual Obligations. The following table presents the amount and timing of Farmer Mac's known, fixed, and determinable contractual obligations by payment date as of December 31, 2017. The payment amounts represent those amounts contractually due to the recipient (including return of discount and interest on debt) and do not include unamortized premiums or discounts or other similar carrying value adjustments.

Table 27

	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
	(in thousands)				
Discount notes[1]	$1,730,472	$ —	$ —	$ —	$1,730,472
Medium-term notes[1]	6,365,557	4,494,563	1,642,930	1,308,721	13,811,771
Interest payments on fixed rate medium-term notes[2]	150,367	188,227	101,077	156,412	596,083
Interest payments on floating rate medium-term notes[3]	41,235	24,681	10,725	14,886	91,527
Operating lease obligations[4]	1,814	3,857	3,975	3,305	12,951
Purchase obligations[5]	1,869	1,511	193	—	3,573

(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 contractual 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, 2017. As a result, these amounts do not reflect the effects of changes in the contractual interest rates effective on future interest rate reset dates.

(4) Includes amounts due under non-cancellable operating leases for office space and office equipment. See Note 12 to the consolidated financial statements for more information regarding Farmer Mac's minimum lease payments for office space.

(5) Includes minimum amounts due under non-cancellable agreements to purchase goods or services that are enforceable and legally binding and specify all significant terms. These agreements include, among others, agreements for the provision of consulting services, information technology support, equipment maintenance, and financial analysis software and services. The amounts actually paid under these agreements will likely be higher due to the variable components of some of these agreements under which the ultimate obligation owed is determined by reference to actual usage or hours worked. The table does not include amounts due under agreements that are cancellable without penalty or further payment as of December 31, 2017 and therefore do not represent enforceable and legally binding obligations. The table also does not include payments that are based on a varying outstanding loan volume (such as servicing fees), as those payments are not known, fixed, and determinable contractual obligations.

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, 2017 do not represent the amounts that may ultimately be paid under the financial derivative contracts, those liabilities are not included in the table of contractual obligations presented above. Further information regarding financial derivatives is included in Note 2(h) 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 enters into arrangements whereby it commits, subject to the terms of the applicable LTSPC agreement, to a future purchase of one or more loans from an identified pool of eligible loans that met Farmer Mac's standards at the time the transaction was entered into and Farmer Mac assumed the credit risk on the loans. The following table presents these significant commitments:

Table 28

	As of December 31,	
	2017	2016
	(in thousands)	
LTSPCs[1]	$3,141,684	$3,088,007
Mandatory commitments to purchase loans and USDA Securities	54,347	114,486

(1) As of both December 31, 2017 and 2016, includes $20.0 million related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee.

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 the remainder of these transactions, and in the event of deconsolidation, both of these alternatives result in the creation of 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, 2017 and 2016, outstanding off-balance sheet LTSPCs and Farmer Mac Guaranteed Securities totaled $4.0 billion and $4.9 billion, respectively. The following table presents the balance of outstanding LTSPCs and off-balance sheet Farmer Mac Guaranteed Securities as of December 31, 2017 and 2016:

Table 29
Outstanding Balance of LTSPCs and
Off-Balance Sheet Farmer Mac Guaranteed Securities

	As of December 31,	
	2017	2016
	(in thousands)	
Farm & Ranch obligations:		
LTSPCs	$2,335,342	$2,209,409
Farm & Ranch Guaranteed Securities	333,511	415,441
Total Farm & Ranch obligations	2,668,853	2,624,850
USDA Guarantees obligations:		
Farmer Mac Guaranteed USDA Securities	254,217	103,976
Rural Utilities obligations:		
LTSPCs(1)	806,342	878,598
Institutional Credit obligations:		
AgVantage Securities(2)	11,556	983,214
Revolving floating rate AgVantage facility(3)	300,000	300,000
Total Institutional Credit obligations	311,556	1,283,214
Total off-balance sheet	$4,040,968	$4,890,638

(1) As of both December 31, 2017 and 2016, includes $20.0 million related to one-year loan purchase commitments on which Farmer Mac receives a nominal unused commitment fee.

(2) In April 2017, Farmer Mac purchased and retained $1.0 billion in AgVantage securities from MetLife. MetLife used the proceeds from Farmer Mac's purchase of $1.0 billion in AgVantage securities to refinance an AgVantage security of the same amount that matured in April 2017. Previously, $970.0 million of the maturing $1.0 billion AgVantage security had been sold to third parties and reported as off-balance sheet business volume in the Institutional Credit line of business.

(3) During 2017, $100.0 million of this facility was drawn and subsequently repaid. During 2016, this facility was not utilized. Farmer Mac receives a fixed fee based on the full dollar amount of the facility. If the counterparty draws on the facility, the amounts drawn will be in the form of AgVantage securities, and Farmer Mac will earn interest income on those securities.

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

Regulatory Matters

The Dodd-Frank Act contains a variety of provisions designed to regulate financial markets. Certain provisions of the Dodd-Frank Act, including those regarding derivatives, corporate governance, and executive compensation, apply to Farmer Mac. Farmer Mac does not expect that any of the final rules that have been adopted under the Dodd-Frank Act or that may be adopted will have a material effect on Farmer Mac's business activities and operations or financial condition. Farmer Mac will continue to monitor all applicable developments in the implementation of the Dodd-Frank Act and expects to be able to adapt successfully to any new applicable legislative and regulatory requirements.

On December 7, 2017, Farmer Mac disclosed that it had terminated the employment of its former President and Chief Executive Officer, Timothy L. Buzby, due to violations of company policies unrelated to Farmer Mac's financial or business performance. Shortly after that disclosure, FCA issued a press release to state that OSMO would be conducting oversight and examination activities that are expected and customary in this type of situation with a regulated entity and to clarify that FCA examinations are not public. Farmer Mac has been cooperating with OSMO in its follow-up requests for information related to the change in leadership at Farmer Mac and the events leading up to that change. Farmer Mac does not expect that this will have a material effect on its business activities and operations or financial condition.

Other Matters

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

Supplemental Information

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

Table 30
New Business Volume

	Farm & Ranch		USDA Guarantees	Rural Utilities		Institutional Credit	
	Loans	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	Total
	(in thousands)						
For the quarter ended:							
December 31, 2017	$204,917	$282,809	$ 100,024	$15,000	$ —	$ 234,753	$837,503
September 30, 2017	298,274	102,774	131,298	70,000	—	290,995	893,341
June 30, 2017	312,217	55,899	169,261	25,000	—	1,296,757	1,859,134
March 31, 2017	314,137	113,261	131,101	27,341	—	561,407	1,147,247
December 31, 2016	243,692	117,265	129,343	10,800	20,000	247,154	768,254
September 30, 2016	282,690	155,657	119,201	20,000	—	528,234	1,105,782
June 30, 2016	241,093	58,156	133,745	10,000	421,404	396,245	1,260,643
March 31, 2016	198,548	68,017	98,968	9,691	—	927,219	1,302,443
December 31, 2015	245,252	185,919	72,442	46,082	—	14,391	564,086
For the year ended:							
December 31, 2017	1,129,545	554,743	531,684	137,341	—	2,383,912	4,737,225
December 31, 2016	966,023	399,095	481,257	50,491	441,404	2,098,852	4,437,122

Table 31
Repayments of Assets by Line of Business

	Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	
	Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	Total
	(in thousands)							
For the quarter ended:								
Scheduled	$25,848	$ 14,371	$36,806	$ 22,381	$315	$13,621	$231,717	$345,059
Unscheduled	49,229	6,941	43,975	24,385	4,876	—	—	129,406
December 31, 2017	$75,077	$ 21,312	$80,781	$ 46,766	$5,191	$13,621	$231,717	$474,465
Scheduled	$61,961	$ 6,735	$21,409	$ 24,163	$27,191	$39,816	$100,571	$281,846
Unscheduled	49,894	5,861	124,676	45,192	457	—	—	226,080
September 30, 2017	$111,855	$ 12,596	$146,085	$ 69,355	$27,648	$39,816	$100,571	$507,926
Scheduled	$21,687	$ 9,116	$41,821	$ 35,169	$—	$9,885	$1,166,922	$1,284,600
Unscheduled	51,442	10,737	47,262	46,776	—	—	4,000	160,217
June 30, 2017	$73,129	$ 19,853	$89,083	$ 81,945	$—	$9,885	$1,170,922	$1,444,817
Scheduled	$70,394	$ 16,184	$48,375	$ 36,322	$26,909	$8,934	$161,451	$368,569
Unscheduled	114,811	11,985	64,486	39,457	814	—	102,059	333,612
March 31, 2017	$185,205	$ 28,169	$112,861	$ 75,779	$27,723	$8,934	$263,510	$702,181
Scheduled	$20,566	$ 15,209	$21,546	$ 21,325	$—	$15,929	$311,739	$406,314
Unscheduled	47,156	10,767	111,137	34,477	4,427	—	2,240	210,204
December 31, 2016	$67,722	$ 25,976	$132,683	$ 55,802	$4,427	$15,929	$313,979	$616,518
Scheduled	$47,221	$ 7,954	$39,192	$ 22,626	$26,522	$58,177	$559,895	$761,587
Unscheduled	85,583	17,108	67,094	36,099	2,108	—	5,000	212,992
September 30, 2016	$132,804	$ 25,062	$106,286	$ 58,725	$28,630	$58,177	$564,895	$974,579
Scheduled	$10,769	$ 9,876	$34,610	$ 34,434	$82	$7,424	$66,699	$163,894
Unscheduled	64,184	8,947	54,119	68,535	—	—	—	195,785
June 30, 2016	$74,953	$ 18,823	$88,729	$ 102,969	$82	$7,424	$66,699	$359,679
Scheduled	$42,555	$ 17,866	$42,619	$ 42,969	$25,966	$4,140	$589,847	$765,962
Unscheduled	91,510	10,883	72,642	44,694	—	—	—	219,729
March 31, 2016	$134,065	$ 28,749	$115,261	$ 87,663	$25,966	$4,140	$589,847	$985,691
Scheduled	$6,689	$ 16,884	$26,265	$ 18,981	$11,234	$4,165	$15,154	$99,372
Unscheduled	59,280	22,534	78,250	33,809	—	—	—	193,873
December 31, 2015	$65,969	$ 39,418	$104,515	$ 52,790	$11,234	$4,165	$15,154	$293,245
For the year ended:								
Scheduled	$179,890	$ 46,406	$148,411	$ 118,035	$54,415	$72,256	$1,660,661	$2,280,074
Unscheduled	265,376	35,524	280,399	155,810	6,147	—	106,059	849,315
December 31, 2017	$445,266	$ 81,930	$428,810	$ 273,845	$60,562	$72,256	$1,766,720	$3,129,389

Scheduled	$121,111	$ 50,905	$137,967	$ 121,354	$52,570	$85,670	$1,528,180	$2,097,757
Unscheduled	288,433	47,705	304,992	183,805	6,535	—	7,240	838,710
December 31, 2016	$409,544	$ 98,610	$442,959	$ 305,159	$59,105	$85,670	$1,535,420	$2,936,467

Table 32
Lines of Business - Outstanding Business Volume

	Farm & Ranch			USDA Guarantees	Rural Utilities		Institutional Credit	
	Loans	Guaranteed Securities	LTSPCs	USDA Securities	Loans	LTSPCs	AgVantage	Total
	(in thousands)							
As of:								
December 31, 2017	$4,198,733	$333,511	$2,335,342	$2,352,214	$1,076,291	$806,342	$7,904,878	$19,007,311
September 30, 2017	4,068,893	354,823	2,133,314	2,298,956	1,066,482	819,963	7,901,842	18,644,273
June 30, 2017	3,882,474	367,419	2,176,625	2,237,013	1,024,130	859,779	7,711,418	18,258,858
March 31, 2017	3,643,386	387,272	2,209,809	2,149,697	999,130	869,664	7,585,583	17,844,541
December 31, 2016	3,514,454	415,441	2,209,409	2,094,375	999,512	878,598	7,287,686	17,399,475
September 30, 2016	3,338,484	441,417	2,224,827	2,020,834	993,139	874,527	7,354,511	17,247,739
June 30, 2016	3,188,598	466,479	2,175,456	1,960,358	1,001,769	932,704	7,391,172	17,116,536
March 31, 2016	3,022,458	485,302	2,206,029	1,929,582	991,851	518,724	7,061,626	16,215,572
December 31, 2015	2,957,975	514,051	2,253,273	1,918,277	1,008,126	522,864	6,724,254	15,898,820

Table 33
On-Balance Sheet Outstanding Business Volume

	Fixed Rate	5- to 10-Year ARMs & Resets	1-Month to 3-Year ARMs	Total Held in Portfolio
	(in thousands)			
As of:				
December 31, 2017	$7,158,014	$2,499,203	$5,309,126	$14,966,343
September 30, 2017	6,921,477	2,447,923	5,426,757	14,796,157
June 30, 2017	6,722,463	2,406,120	5,226,982	14,355,565
March 31, 2017	5,373,283	2,330,819	5,255,146	12,959,248
December 31, 2016	5,346,011	2,274,535	4,888,291	12,508,837
September 30, 2016	5,278,332	2,212,946	4,869,765	12,361,043
June 30, 2016	5,201,386	2,157,342	4,867,336	12,226,064
March 31, 2016	4,942,566	2,296,767	4,468,045	11,707,378
December 31, 2015	4,923,163	2,271,960	4,118,366	11,313,489

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

Table 34

	Net Effective Spread by Line of Business											
	Farm & Ranch		USDA Guarantees		Rural Utilities		Institutional Credit		Corporate		Net Effective Spread[1]	
	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield	Dollars	Yield
	(dollars in thousands)											
For the quarter ended:												
December 31, 2017[2]	$12,396	1.80%	$4,979	0.93%	$3,057	1.14%	$14,800	0.78%	$2,235	0.35%	$37,467	0.93%
September 30, 2017	11,303	1.73%	4,728	0.90%	2,765	1.07%	14,455	0.78%	2,725	0.41%	35,976	0.91%
June 30, 2017	11,158	1.77%	4,551	0.87%	2,669	1.06%	14,467	0.81%	2,489	0.36%	35,334	0.91%
March 31, 2017	10,511	1.77%	4,561	0.89%	2,568	1.04%	12,615	0.82%	2,271	0.32%	32,526	0.90%
December 31, 2016[2]	10,131	1.75%	5,152	1.04%	2,530	1.02%	11,636	0.78%	1,999	0.26%	31,448	0.88%
September 30, 2016	10,476	1.86%	4,994	1.03%	2,541	1.01%	11,431	0.75%	2,239	0.24%	31,681	0.85%
June 30, 2016	9,644	1.74%	4,392	0.92%	2,459	0.98%	11,412	0.77%	2,596	0.29%	30,503	0.83%
March 31, 2016	9,238	1.67%	4,118	0.87%	2,438	0.99%	11,093	0.80%	2,553	0.26%	29,440	0.81%
December 31, 2015	9,168	1.68%	4,332	0.92%	2,747	1.10%	10,902	0.80%	2,306	0.26%	29,455	0.84%

(1) Net effective spread is a non-GAAP measure. Effective in fourth quarter 2017, Farmer Mac revised its methodology for calculating net effective spread to also include the net effects of terminations or net settlements on financial derivatives and hedging activities. All prior period information has been recast to reflect the revised net effective spread methodology. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Use of Non-GAAP Measures—Net Effective Spread" for more information regarding the explanation of net effective spread.

(2) 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, 2017 and 2016.

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

Table 35
Core Earnings by Quarter Ended

	December 2017	September 2017	June 2017	March 2017	December 2016	September 2016	June 2016	March 2016	December 2015
	(in thousands)								
Revenues:									
Net effective spread	$37,467	$35,976	$35,334	$32,526	$31,448	$31,681	$30,503	$29,440	$29,455
Guarantee and commitment fees	5,157	4,935	4,942	5,316	5,158	4,533	4,810	4,669	4,730
Other	69	274	107	485	545	713	466	346	267
Total revenues	42,693	41,185	40,383	38,327	37,151	36,927	35,779	34,455	34,452
Credit related (income)/expense:									
Provision for/(release of) losses	464	384	466	444	512	(31)	458	63	(49)
REO operating expenses	—	—	23	—	—	—	—	39	44
(Gains)/losses on sale of REO	(964)	(32)	(757)	5	—	(15)	—	—	—
Total credit related (income)/expense	(500)	352	(268)	449	512	(46)	458	102	(5)
Operating expenses:									
Compensation and employee benefits	5,247	5,987	6,682	6,317	5,949	5,438	5,611	5,774	5,385
General and administrative	4,348	3,890	3,921	3,800	4,352	3,474	3,757	3,526	3,238
Regulatory fees	625	625	625	625	625	613	612	613	613
Total operating expenses	10,220	10,502	11,228	10,742	10,926	9,525	9,980	9,913	9,236
Net earnings	32,973	30,331	29,423	27,136	25,713	27,448	25,341	24,440	25,221
Income tax expense	11,796	10,268	10,307	8,844	9,189	9,577	8,979	8,568	8,876
Net (loss)/income attributable to non-controlling interest[(1)]	—	—	(150)	(15)	28	(18)	(16)	(28)	(60)
Preferred stock dividends	3,296	3,295	3,296	3,295	3,296	3,295	3,296	3,295	3,296
Core earnings	$17,881	$16,768	$15,970	$15,012	$13,200	$14,594	$13,082	$12,605	$13,109
Reconciling items:									
(Losses)/gains on financial derivatives and hedging activities	(264)	2,737	2,221	4,805	17,233	1,460	(2,076)	(2,989)	2,743

due to fair value changes									
Unrealized gains/(losses) on trading assets	60	—	(2)	(82)	(474)	1,182	394	358	696
Amortization of premiums/discounts and deferred gains on assets consolidated at fair value	(129)	(954)	(117)	(127)	(40)	(157)	(371)	(281)	(263)
Net effects of terminations or net settlements on financial derivatives and hedging activities	632	862	232	948	2,150	238	398	(608)	(217)
Re-measurement of net deferred tax asset due to enactment of new tax legislation	(1,365)	—	—	—	—	—	—	—	—
Income tax effect related to reconciling items	(105)	(926)	(816)	(1,941)	(6,604)	(953)	579	1,232	(1,036)
Net income attributable to common stockholders	$16,710	$18,487	$17,488	$18,615	$25,465	$16,364	$12,006	$10,317	$15,032

(1) As of May 1, 2017, Farmer Mac transferred its entire 65% ownership interest in AgVisory back to the limited liability company.

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 regarding 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, 2017. 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, 2017 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, 2017, 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 Federal Agricultural Mortgage Corporation and its subsidiaries as of December 31, 2017 and 2016 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, 2017, 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, 2017, 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, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017 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, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

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

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

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial

reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ PricewaterhouseCoopers LLP
McLean, VA
March 8, 2018

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

FEDERAL AGRICULTURAL MORTGAGE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	As of December 31, 2017	December 31, 2016
	(in thousands)	
Assets:		
Cash and cash equivalents	$302,022	$265,229
Investment securities:		
Available-for-sale, at fair value	2,215,405	2,515,851
Held-to-maturity, at amortized cost	45,032	—
Total Investment Securities	2,260,437	2,515,851
Farmer Mac Guaranteed Securities:		
Available-for-sale, at fair value	5,471,914	4,853,685
Held-to-maturity, at amortized cost	2,126,274	1,149,231
Total Farmer Mac Guaranteed Securities	7,598,188	6,002,916
USDA Securities:		
Trading, at fair value	13,515	20,388
Held-to-maturity, at amortized cost	2,117,850	2,009,225
Total USDA Securities	2,131,365	2,029,613
Loans:		
Loans held for investment, at amortized cost	3,873,755	3,379,884
Loans held for investment in consolidated trusts, at amortized cost	1,399,827	1,132,966
Allowance for loan losses	(6,796)	(5,415)
Total loans, net of allowance	5,266,786	4,507,435
Real estate owned, at lower of cost or fair value	139	1,528
Financial derivatives, at fair value	7,093	23,182
Interest receivable (includes $17,373 and $12,584, respectively, related to consolidated trusts)	155,278	122,782
Guarantee and commitment fees receivable	39,895	38,871
Deferred tax asset, net	2,048	12,291
Prepaid expenses and other assets	29,023	86,322
Total Assets	$17,792,274	$15,606,020
Liabilities and Equity:		
Liabilities:		
Notes payable:		
Due within one year	$8,089,826	$8,440,123
Due after one year	7,432,790	5,222,977
Total notes payable	15,522,616	13,663,100
Debt securities of consolidated trusts held by third parties	1,404,945	1,142,704
Financial derivatives, at fair value	26,599	58,152
Accrued interest payable (includes $14,631 and $10,881, respectively, related to consolidated trusts)	75,402	49,700
Guarantee and commitment obligation	38,400	37,282
Accounts payable and accrued expenses	14,096	9,415
Reserve for losses	2,070	2,020
Total Liabilities	17,084,128	14,962,373
Commitments and Contingencies (Note 12)		

Equity:		
Preferred stock:		
Series A, par value $25 per share, 2,400,000 shares authorized, issued and outstanding	58,333	58,333
Series B, par value $25 per share, 3,000,000 shares authorized, issued and outstanding	73,044	73,044
Series C, par value $25 per share, 3,000,000 shares authorized, issued and outstanding	73,382	73,382
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, 9,087,670 shares and 9,007,481 shares outstanding, respectively	9,088	9,008
Additional paid-in capital	118,979	118,655
Accumulated other comprehensive income, net of tax	51,085	33,758
Retained earnings	322,704	275,714
Total Stockholders' Equity	708,146	643,425
Non-controlling interest	—	222
Total Equity	708,146	643,647
Total Liabilities and Equity	$	